Integrated Biological and Behavioral Surveillance (IBBS) Survey among Men who have Sex with Men (MSM) and Transgender (TG) in Tarai Highway Districts of Nepal

Round II

Ministry of Health and Population
National Centre for AIDS and STD Control (NCASC)
Teku, Kathmandu, Nepal

2018

Field Work Conducted by:

The IBBS Survey is part of the National HIV Surveillance Plan led by National Center for AIDS and STD Control (NCASC). The fieldwork of this survey was carried out by National Institute for Development and Research (P) Ltd. (NIDR) and the quality assurance was done by National Public Health Laboratory (NPHL) with technical and financial assistance from NCASC.

©National Centre for AIDS and STD Control (NCASC), 2018

Recommended citation: NCASC (2018). Integrated Biological and Behavioral Surveillance (IBBS) Survey among Men who have Sex with Men and Transgender, Round 2, Nepal 2018: Ministry of Health and Population, National Centre for AIDS and STD Control, Kathmandu, Nepal

Acknowledgement

Integrated Biological and Behavioral Surveillance (IBBS) survey among Men who have Sex with Men (MSM) and Transgender (TG) in eight Tarai Highway Districts of Nepal was carried out in accordance with the National HIV and AIDS Surveillance Plan. This survey was conducted with the technical and financial support of the National Centre for AIDS and STD Control (NCASC). This survey had the expectation in providing the evidences about the trend in the prevalence of HIV among MSM/TG, their risk behaviours and exploration of tactical information on HIV and STI which needed to be monitored and guided by the National HIV and AIDS programme.

We would like to acknowledge the support of entire survey monitoring team and Strategic Information Technical Working Group (SITWG) for their support throughout the survey.

We would also like to thank National Institute for Development and Research Private Limited (NIDR) and its Field Team Leader Mr Purushottam Khatiwada and his team members for their commitment and enthusiastic determinations that led to the successful completion of fieldwork of this survey in time. Our kind words of thanks go to the National Public Health Laboratory (NPHL) for conducting external quality assessments of the biological specimens.

We are grateful to District Administration Offices, District Police Offices and District Public Health Offices and Municipalities of survey conducted districts (Kailali, Kanchanpur, Kapilbastu, Rupandehi, Nawalparasi, Sunsari, Morang and Jhapa) for their kind cooperation and support during the fieldwork. We are thankful to Pinky Gurung, the chairperson of Blue Diamond Society (BDS) for his valuable inputs and supports throughout the fieldwork. Similarly, special thanks go to local representatives of BDS Raju Lama (Dhangadhi), Prerana Bista (Taulihawa), Manila Neupane (Bhairahawa), Aanik Rana (Butwal), Puspa Lama (Parasi), Ravi Shrestha (Itahari), Muskan Shrestha (Biratnagar), Ishwari Neupane (Pathari) and Chanchala Subba (Damak) for their kind support and valuable contribution for the successful completion of fieldwork. Our sincere thanks go to all the outreach workers and runners for assisting respondents to participate in the survey.

Last but not least, we are very grateful to all respondents of the survey for their valuable time for participating in interviews, showing consent in providing biological sample for testing and sharing their personal experiences with the survey team. Without their cooperation, this survey would not be possible.

Dr Basu Dev Pandey, Director,
National Center for AIDS and STD Control (NCASC)

Survey Team

Principal Investigator
Dr Basu Dev Pandey

Co-Investigator
Mr Bir Bahadur Rawal
Dr Keshab Deuba, NCASC/ Global Fund Programs
Mr Upendra Shrestha, NCASC/ Global Fund Programs

Technical Support
Sagun Pant NCASC (Global Fund)
Shiva Hari Adhikari NCASC (Global Fund)

FIELD TEAM

Team Leader
Purushottam Khatiwada

Researcher Officer
Suryamani Rai

Report Writing Assistant
Sanjaya Bahadur Chand

Field Coordinators
Sagar Prasad Bhatt
Ganesh Bista

Interviewers
Dev Raj Dhital
Sashi Sapkota
Yogendra Chand
Lalit Bohara
Lok Raj Sanjyal
Samrat Bista

Lab Coordinator
Dan Bahadur Bohara

Clinicians
Nirajan Khadayat
Uttam Bhatta

Lab Technicians
Bhuwan Katuwal
Avesh Chaudhary

Admin & Finance

Outreach Manager
Pinky Gurung

Counselors
Chanchala Subba
Ishwari Sigdel
Muskan Shrestha
Ravi Shrestha
Puspa Lama
Aanik Rana Magar
Manila Neupane
Prerana Bista
Raju Lama

Outreach Workers
Bechan Chaudhary
Jinda Lal Chaudhary
Salma Begam
Hasta Magar
Sudan Chaudhary
Krishna Kumar Tamang
Rojina Thapa
Binod Mahato
Raj Mangal Lodh
Sabudin Lohar
Ruma Aale
Ram Chandra Chaudhary
Durga Bhat

Gajendra Bhatta

Database Developer

Bikram Kunwar

Runners

Anil Bhagat
Abdul Rahim
Awantika Gharti
Aashika Chaudhary
Sanjaya Chaudhary
Prakash Chaudhary
Haidar Ali Sekh
Ram Narayan Mallaha

Birendra Chaudhary
Dhan Bahadur Chaudhary
Bam bahadur Santasi

Runners

Lal Chandra Uraw
Suman Tamang
Ram Kishan Gurung
Shiva Narayan Chaudhary
Dipika Rai
Shree Prasad Chaudhary
Prem Thapa
Nishan Shah

Executive Summary

This is the second round of Integrated Biological and Behavioral Surveillance (IBBS) survey among MSM/TG conducted in eight districts of Tarai Highway Districts in Nepal. The primary objectives of the IBBS surveys were: to determine the prevalence and trend of HIV, Syphilis, *Chlamydia Trachomatis* (CT), *Neisseria Gonorrhoea* (NG) and associated HIV-related risk behaviors among MSM/TG, collect information related to socio-demographic characteristics and explore the association between the risk behaviors and HIV and other specific STIs among MSM/TG population.

The IBBS survey used serial descriptive cross-sectional research design and Respondent Driven Sampling (RDS) method to recruit the respondents of the survey. The sample size was 340 who were recruited from three different geographical areas where a sample comprised of 120 MSM/TG were taken from eastern three districts (Jhapa, Morang and Sunsari), 120 MSM/TG were from western three districts (Nawalparasi, Rupandehi and Kapilbastu) and 100 MSM/TG were from Far-western two districts (Kailali and Kanchanpur).

Experienced and trained survey team was involved for biological and behavioral data collection. The entire survey was conducted in coordination with local NGOs, Community Based Organizations (CBOs) and Government Organizations. National Centre for AIDS and STD Control (NCASC) had provided financial support, done supervision, quality control and monitoring throughout the overall survey process.

Ethical approval was obtained from Nepal Health Research Council (NHRC), and confidentiality was maintained as per the survey protocol. A unique identification (ID) number was used to track the respondents in each questionnaire, in keeping medical records and collecting all biological specimens.

Tablet-based face to face interview was carried out to collect behavioural data whereas biological data (blood, urine, anal swab) were collected to test HIV, syphilis, *Neisseria Gonorrhoea* and *Chlamydia Trachomatis*. All the collected data were synced into the server first, they then were converted into Excel sheet for data management, and finally, they were exported into SPSS and STATA software for analysis. RDS related major estimate (HIV prevalence) was adjusted to represent the structure of the survey population which was based on information regarding who recruited whom, and the relative size of the respondents' network using the Volz–Heckathorn estimator (RDS II).

Socio-Demographic Characteristics

Among 340 survey respondents, 201 (59.1%) were MSM and 139 (40.9%) were TG. Out of total respondents, 196 (57.6%) were sex workers, and 144 (42.4%) were not involved in sex work. Regarding the age distribution of the respondents, the majority (54.7%) of them

were of above 25 years age and the number of this age group was slightly higher (59.8%) in the previous round of the survey, however the median age of the MSM/TG was found to have increased from 25 years to 26 years in the second round. The three-fifth (62.6%) of the respondents in the survey were unmarried and among the rest, nearly nine tenths (89%) were married to women. Less than half of the total respondents (48.5%) were found currently living with a regular sex partner whereby nearly half (49.1%) of them were found living with men/*meti*. Regarding the religion, Hindu (85.1%) was found to have been mostly practised religion. Half of the MSM/TG (52.1%) belonged to disadvantaged non-Dalit Tarai Caste ethnic groups. Almost 51percent MSM/TG had the education up to SLC and above. Regarding occupation, 22 percent reported their occupation as manual labor followed by students (18.5%) with the average monthly income of NRs 18533 ranging from NRs. 300 - 99000.

HIV and STI Prevalence

The overall prevalence of HIV in MSM/TG was found to be 8.2 percent (RDS adjusted HIV prevalence: 6.3%). TG (11.5%) was found to have a higher prevalence of HIV than MSM (6%). Similarly, the prevalence of HIV among MSW (10.2%) was almost double than that of non-MSW (5.6%). It was noticeable that only 0.6 percent of HIV prevalence was observed in the MSM/TG among the age group of 15-24 years while it was 14.5 percent among the respondents of 25 years and above age group. Active syphilis (2.4%) and syphilis history (1.5%) was reported as STI among the MSM/TG. In case of Chlamydia and Gonorrhea, 0.9 percent of MSM/TG had Chlamydia, and 0.6 percent of MSM/TG had Gonorrhea in the current round of survey.

Service Seeking Behaviors

Nearly two third (66.5%) of respondents had ever tested HIV. Nearly three-fifths (57.1%) MSM/TG were found to have had interacted with Peer Educators (PE) or Outreach Educators (OE) or Community Mobilisers (CM) or Community Educators (CE) in the last 12 months.

Exposure to HIV Programs

Less than fifty percent of MSM/TG (44.1%) were found to have had visited HTC center in the past 12 months in comparison to previous round (41%) of the survey, and above half (56.7%) of them had visited the HTC center twice or thrice in the last 12 months. Among the total respondents, almost 39 percent in the second round of the study and 18 percent in the first round of survey were found to have visited Drop-In Centers (DIC) and STI clinic of MSM/TG in the last 12 months respectively.

Comprehensive Knowledge of STIs

Above half (53%) of the respondents reported that they had genital ulcers/ sores as a symptom of STI. Among those who experienced STI symptoms, 36.4 percent were found to have received treatment from hospital followed by 29.9 percent treatment received from the chemist, and 16.9 percent treatment received from NGO led clinics.

Sexual Behaviors, Condom and Lubricant Use

Three-fifths (59.1%) of MSM/TG told that they had first sexual intercourse somewhere in or between of the age of 10 to 16 years while the median age for the first sex among the respondents was 16 years. Three quarter (74.7%) of MSM/TG shared that they had male/meti as their first sex partners. About half (45%) of the MSM/TG told that they had two to five non-paying male sex partners, 48.3 percent said, they had one female sex partner, nearly a quarter (23.2%) told they had two to five one-time paying male sex partners and a half (50.3%) of MSM/TG said, they had one regular paying male sex partner.

Nearly two-thirds (64%) were found using condoms during last anal sex with non- paying male sex partner while 53.7 percent shared they had used condom at last sex, with non-paying female sex partner. Similarly, 71.4 percent had used condom in the last sex with the one-time paying male sex partner, 58.6 percent said that they used condom within the last anal sex with the regular paying male sex partner, and 78 percent of MSM/TG told they used condom in the last vaginal or anal sex with paid female sex partner. Likewise, 58 percent said they used condom in the last anal sex.

Regarding availability of condom in their catchment areas, above three quarter (76.8%) responded they can obtain condom every time they need it. The majority (50.6%) of those who did not have availability of condoms during the time they need said that the shops/pharmacies where they are available were too far from their residence. About three quarters (74.4%) of the MSM/TG shared they had ever used lubricant in the anal sex, while majority of the MSM/TG (87%) were found using water-based lubricant followed by saliva (7%) and oil (3.2%).

Alcohol and Drug Use

Nearly three-fifths (58.5%) of MSM/TG were found ever taking alcohol and half (49.7%) of them reported that they consumed alcohol once a week in some of the past months followed by the respondents who said they took alcohol 3-4 times in a week (32.2%). A number of the respondents who took every day and never consumed happened to be the same (9%) in the past month. About two fifths (39.2%) of them reported that they did never consume alcohol during last sex.

The respondents also reported that they consumed the illicit drugs such as Gaja (13.5%), Chares (5.3%), and Heroine (0.3%) where 2.6 percent of MSM/TG was found to have

injected illicit drugs in the past year.

Use of Hormone

Above one-tenth (11.5%) of total MSM/TG were found using hormone and among those who used hormone, majority (53.8%) were advised to use it from their friends followed by doctor (20.5%) and self-decision (20.5%). Two-third (66.7%) of those who had used hormone reported that the use of hormone caused them headache followed by increased weight (41%), pain on breast (38.5%), fever (28.2%) and black spot on the face (23.1%).

Stigma and Discrimination

More than one-third of the total MSM/TG (33.8%) reported that they experienced sexual orientation-based discrimination on the street or in a public setting like parks while a quarter (24.7%) of MSM/TG said, they were mistreated at school, restaurant and even by police or other security personnel. While being mistreated based on their sexual orientation, nearly half (47.9%)of them reported that they accepted it and kept all those to self however above one-third (35.9%) told, they did something and talked to others during such situations while less than one-fifth (16.2%) shared that they did something but did not report to anyone and kept it to the self.

Less than a quarter (22.9%) of MSM/TG reported that they even thought to commit suicide over the period of time. A three-fifths (60.3%) of MSM/TG shared that they planned to commit suicide in the past 12 months and above two-fifths (41%) revealed that they even attempted suicide.

Program Implications and Recommendations

i. The majority of MSM/TGs were found to have their sexual debuts during the teenage period (10 to 16 years). Therefore, programs should be launched targetting young MSM/TG about safe sex behaviors. Targeted interventions should focus on the students, both school-going adolescents and those who are out of school education. It should be implemented focusing on delayed sex, consistent and correct use of condoms.
ii. It is necessary to prioritize and communicate effectively during the delivery of HIV prevention services about consistent condom use with regular, non-paying and paid sex partners while having sex, whether it is oral or anal sex.
iii. Information about available HIV and STI services, including use of condoms should be disseminated widely through mass media and social media.
iv. The uptake of behavioural interventions was found low among MSM/TG. The existing modalities to deliver behavioural interventions need to be evaluated upon its effectiveness to reach out among the hidden MSM/TG in Tarai Highway Districts.

v. Develop and implement advocacy and awareness program against sexual violence and discrimination based on sexual orientation. Design and implement different interventions to address psychosocial health problems (depression and suicidal) among MSM/TG in Nepal.

vi. Develop effective and easy access to CT & NG test and treatment services mechanism among MSM/TG in Nepal.

Table of Contents

List of tables

List of Figures

Acronyms

ABC	Abstinence, Being Faithful, Condom Use
AIDS	Acquired Immune-Deficiency Syndrome
ART	Anti-Retroviral Therapy
BCDEF	Being Faithful, Condom Use, Healthy Looking, Exposure to Mosquitoes, Transmission from Food
BDS	Blue Diamond Society
BSS	Behavioral Surveillance Survey
CBO	Community Based Organization
CE	Community Educators
CI	Confidence Interval
CMs	Community Motivators/Mobilisers
CT	Chlamydia Trachomatis
DIC	Drop-In-Centre
EQA	External Quality Assessment
EQAS	External Quality Assurance Scheme
FSGMN	Federation of Sexual and Gender Minorities Nepal
FSWs	Female Sex Workers
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GOs	Governmental Organizations
HIV	Human Immuno-Deficiency Virus
HTC	HIV Testing and Counselling
IBBS	Integrated Biological and Behavioural Surveillance
IC	Information Centre
ID	Identifier
KAP	Key Affected Population
MoHP	Ministry of Health and Population
MSM	Men who have Sex with Men
MSW	Male Sex Worker

NCASC	National Center for AIDS and STD Control
NG	Neisseria Gonorrhoea
NGO	Non-Governmental Organization
NHRC	Nepal Health Research Council
NIDR	National Institute for Development and Research (P) Ltd
NPHL	National Public Health Laboratory
NRs	Nepalese Rupees
ODK	Open Data Kit
OE	Outreach Educator
OST	Opioid Substitution Therapy
PE	Peer Educator
PLHIV	People Living with HIV
PMTCT	Prevention of Mother to Child Transmission of HIV
PWID	People Who Inject Drugs
RDS	Respondent Driven Sampling
RPR	Rapid Plasma Regain
SI	Strategic Information
SITWG	Strategic Information Technical Working Group
SPSS	Statistical Package for the Social Sciences
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TG	Transgender
TPHA	Treponema Pallidum Hemagglutination Assay
TPPA	Treponema Pallidum Particle Agglutination
UNAIDS	United Nations Programme on HIV and AIDS
UNGASS	United Nations General Assembly Special Session
USAID	United States Agency for International Development
WHO	World Health Organization

Chapter I: Introduction

1.1 Background

National HIV Strategic Plan 2016 - 2021 (NCASC, 2017) is a guiding document for HIV and other sex related responses in the country. The epidemic of HIV in Nepal is concentrated among key populations at higher risk. National HIV and AIDS Strategy 2016-2021 has identified female sex workers, transgender sex workers, male sex workers, clients of sex workers, transgender people, gay men and other men who have sex with men, people who inject drugs, incarcerated people, mobile, migrant and displaced populations, young people and uniformed services as key populations[1].

The goals of national HIV programmes are to reduce the transmission rate of HIV and to provide care for already infected people. Understanding of the extent of burden of HIV and its associated factors is needed to achieve these goals. Prevalence of HIV infection differs in key populations and Integrated Biological and behavioural surveillance (IBBS) surveys are stronger component of HIV surveillance, and IBBS survey data are widely used for designing HIV response, to monitor HIV prevention, care, and treatment programs and for estimation and projection of HIV infections in many countries including Nepal. The results of IBBS surveys have been used by donors, policy makers, program designers and implementers, academicians, and civil society organizations to track the level of HIV epidemic and related risk behaviors in Nepal. The findings of IBBS surveys are a major source of information for understanding the HIV dynamics including behavior as well as HIV and STI prevalence among KAP produces relevant information that provides information to formulate the plan, policy and programmes for the prevention and treatment of the HIV.

Until 2018, IBBS survey in Nepal was conducted among Men who have Sex with other Men (MSM) and Transgender (TG), People with Injecting drugs (PWIDs) Male and Female, Female Sex Workers (FSWs) and their clients, Migrant Workers and their spouses, Truckers and Street Children. Various rounds of IBBS surveys were conducted among key populations; six rounds in Kathmandu Valley (2004, 2007, 2009, 2012, 2015 and 2017), two rounds in eight Tarai Highway Districts (2016 and 2018) and one round in Pokhara Valley (2017) among MSM/TG. The current survey among MSM/TG in eight Tarai Highway Districts is the second round. Geographically, the inhabitant of the MSM/TG is largely scattered across Nepal, so the possibility of the prevalence of HIV would exist across the other territories in Nepal.

[1] NCASC 2017, National HIV Strategic Plan 2016 – 2021.

The HIV prevalence rate of 2015 has declined to 2.4 percent from 3.8 percent back in 2009 and 2012 however it was 3.3 percent in 2007, a small decline in comparison to 2004 (3.9%) in Kathmandu Valley. In the first round of IBBS survey (2016) in Tarai Highway Districts, the prevalence of HIV in MSM/TG was 8.2 percent. Among different regions, HIV prevalence was found highest in the western region (16.5%) followed by the eastern region (6.5%) and far western region (5.3%) respectively. The HIV prevalence among MSW was 12.8 percent while it was 4.3 percent among non-MSW. History of active Syphilis was highest among MSW (10.7%) followed by MSM/TG (9.4%) and non-MSW (8%). However, Syphilis history was found in 0.6 percent respondents in all three groups.

1.2 Objectives

The objectives of IBBS survey among MSM/TG were as mentioned below:

Primary objectives

- To determine the trends in the prevalence of HIV and STI infections
- To assess the sexual behaviors related to HIV and STI among the survey populations in the selected survey areas.

Secondary objectives:

- To assess socio-demographic characteristics and additional information (alcohol behaviors; sexual behavior including knowledge and use of condoms);
- To assess knowledge of transmission and prevention of HIV and STI;
- To assess the uptake of available HIV and STI prevention, treatment, care and support services in selected survey areas;
- To assess the experience of stigma, discrimination and physical, sexual and other forms of violence;
- To explore the association between the risk behaviors and HIV

1.3 Rationale of the survey

IBBS surveys are key components of the national HIV surveillance plan of Nepal and it has been taking place in regular intervals. Estimation and projection of HIV infections in the country are heavily based on IBBS surveys data. Data on crucial National HIV Indicators (outcome and impact) are also derived from IBBS survey findings.

MSM/TGs are generally a hidden population in Nepal, and their status is marginalized and hidden in society due to stigma and discrimination associated with the same-sex behaviours. Despite extensive distribution of free condoms and lubricants to prevent HIV transmission among men having sex with men (MSM) in Nepal, the prevalence of HIV and

risky sexual behaviors remain high stake. High risk of HIV infection was significantly associated with one being involved in sex and sex related work, having no knowledge of male sexually transmitted infection (STI) symptoms, and a history of STI symptoms.[2]

Being one of the key population, the recent prevalence and number of MSM/TG in Kathmandu valley (i. e. 2.4%) is significantly on rise.. As inhabitants of the MSM/TG are scattered across the country, it is important and necessary to conduct the IBBS survey in order to find out the biological and behaviours aspects of the MSM/TG among the population outside Kathmandu valley.

Most of the Tarai Highway Districts where there is high population density and also at across the borders where the inhabitants of MSM/TG come into contact with broader and large group of people, they are the more vulnerable groups of people who have high chances to get the STIs. So, this Survey finding would be of great help to the country to design and target HIV prevention and treatment services among MSM and TG in all Tarai Highway Districts of Nepal.

[2] *Deuba K. Risk of HIV Infection Among Men Having Sex With Men in Kathmandu Valley, Nepal*. Available from: https://www.researchgate.net/publication/224006520_Risk_of_HIV_Infection_Among_Men_Having_Sex_With_Men_in_Kathmandu_Valley_Nepal [accessed Feb 11 2018].

Chapter II: Methodology

This section presents survey design, its processes, participants' recruitment, sampling, field survey processes, ethical aspects, clinical and laboratory procedures, study management, quality assurance, data handling, management and analysis of surveys with limitations**.**

2.1 Survey Design

The survey used and applied a serial descriptive cross-sectional design.

2.2 Study Population

The study was conducted among MSM/TG who are considered as one of the key populations (KP) (NCASC, 2012) being at higher risk of getting HIV infection. For this survey, MSM/TG were divided into two sub-groups namely, male sex workers (MSWs) and non-MSWs.

Inclusion definition for MSM and TG*: **'Biological males aged 16 years or above who have engaged in sexual relationship (oral and/or anal sex) with another biological male at least once within the past 12 months prior to the date of survey***'

- Male sex workers (MSWs): '*Those males aged 16 years or above who have had sexual relations, (either oral or anal) with another male within the 12 months preceding the survey in exchange for money or other commodities.'*
- Non-MSWs: '*Those males aged 16 years or above who have had sexual relations (either oral or anal) with another male within the 12 months preceding the survey without receiving cash payment or other commodities.'*

2.3 Survey District

The MSM/TG survey in eight Tarai Highway Districts (sharing an open border with India) namely, Jhapa, Morang and Sunsari of Eastern Tarai, Nawalparasi, Rupandehi and Kapilbastu of WesternTarai, and Kailali and Kanchanpur of Far Western Tarai were selected in line with the previous survey.

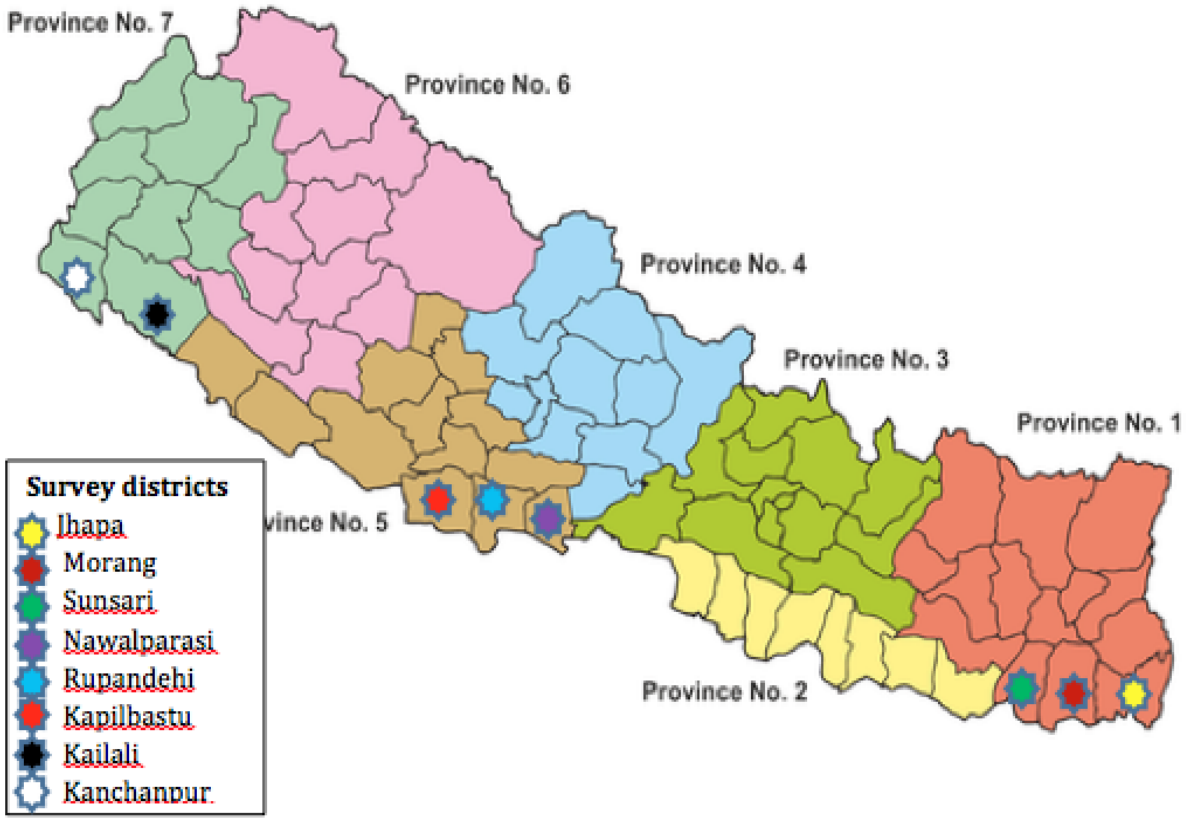


Figure 2.1: Survey districts

2.4 Sampling Design and Sample Size

This is the second round of the IBBS survey among MSM/TG in Tarai Highway Districts. Thus the survey tools were developed and designed with reference to the previous survey and having close coordination with the NCASC/Global Fund team. During the preliminary planning, Blue Diamond Society (BDS) - the umbrella organization of MSM/TG was also consulted for the coordination with local networking partners than the CBOs and NGOs of MSM/TG in the selected districts. Local organizations also supported us in establishing RDS centers, seeds recruitment, outreach and runner staffs mobilization as well as to understand the diversity within the community. Due to their strong networking within diverse communities Respondent Driven Sampling (RDS) design was applied into the survey. The respondent-driven sampling (RDS), a form of chain-referral methodology was utilized to recruit respondents in the survey. The RDS process was initiated purposively selecting a set of eight MSM/TG sample from each survey districts as 'seeds'. The seeds were selected from various categories of MSM/TG such as MSM, TG, MSW, TGSW, both young and old. Three recruitment coupons had been given to each seed for further

recruitment of respondents from their networks and continued the same process until the targeted samples was obtained.

The sample size was calculated to detect 15-percentage points difference in key indicators such as type of sexual partners and consistency of use of condom with the help of a basic statistical formula (Annex1). Based on the formula, a total of 340 MSM/TG were included in this survey. As the survey area was divided into three clusters, the total sample was divided into three regions on the basis of population size.

Since RDS allows a dual incentive system to induce recruitment, each participant received NRs. 350 (equivalent to $3.5 USD) for the participation in the survey and another NRs. 200 (equivalent to $2 USD) through the reward coupon for each individual they recruited. A participant received up to NRs. 950 (equivalent to $9.5 USD) for successfully recruiting three peers into the survey.

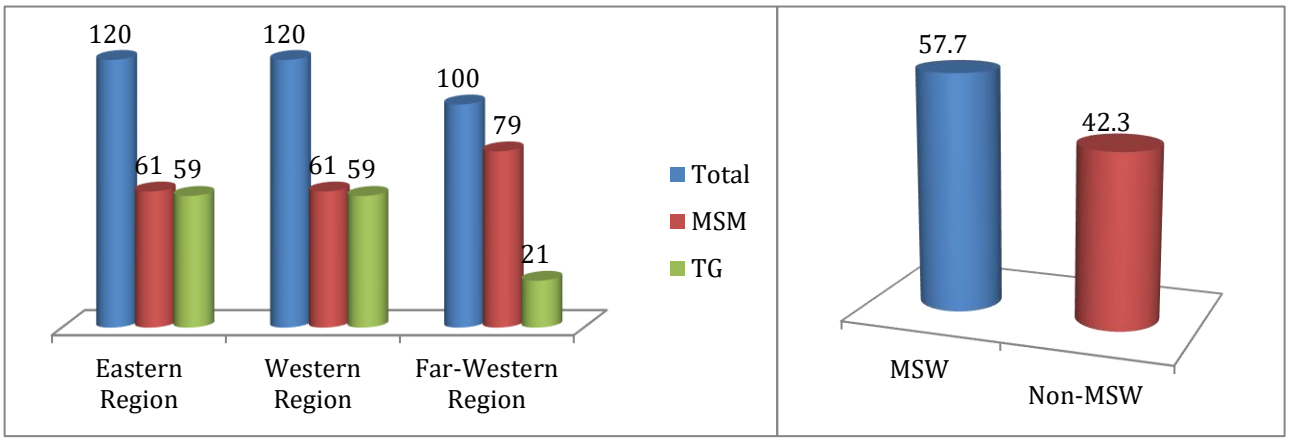


Figure 2.2: Distribution of Respondents

2.5 Data Collection Tools and Techniques

A quantitative research approach was used for the survey. A semi-structured questionnaire was used to collect behavioral data relating to sexual behavior, sex partners, use of condoms and lubricants by the MSM/TG as well as their demographic, social characteristics, connection with MSM/TGs network and exposure to services related to HIV and STI.

Tablet-based face to face interview was performed to collect behavioural information whereas lab test results were entered into tablet at the end of each day of field work. We used ODK software for tablet-based data collection. The merits of the tablet-based data collection were that the obtained data were sent to the central server at the same day of data collection, collected data were available to observe to the central survey team to

assess the progress of data collection. Field coordinator was responsible for checking any inconsistency and to instruct for the immediate correction.

Before starting the interview, all those coming with the referral cards were informally asked certain screening questions relating to the general behavior of MSM/TG, and their sexual partners to ensure that they meet the definitions of MSM and TG. Rapport building process was adopted with the support from the runners who assisted the survey team in the screening process.

Since the survey was conducted at one center in each location, there was hardly any possibility for duplication or repeated interviews of the same MSM and TG participant. Nevertheless, the survey team asked each participant several questions to make sure this was the first time they had participated in this survey. Such questions included queries relating to their experience of having undergone any blood tests, the part of the body from where the blood was taken, their experience of HIV testing or testing for other diseases, meeting with survey staff and peer educators.

Confidentiality of the survey was maintained by applying the following measures:

- Each respondent was given unique ID to participate in the survey.
- All the field staffs were strictly prohibited from recording any personal identifiers in the tablet-based questionnaire.
- Confidentiality was maintained throughout the process by not allowing entering any other individual in the room other than respective field staffs.
- All the recorded data in the tablets were not allowed to be assessed by any field staffs except field coordinator and central survey staffs and they used to send it to the central data server each day after fieldwork.
- All the enumerators were strictly prohibited from sharing with anyone about behavioral or biological information of the respondents.
- Lab technicians were instructed to provide the test result in a closed envelope to the counsellor. Counsellors were responsible for providing lab results to the respondents.
- Counselors were instructed to open the test only after getting permission from the respondents

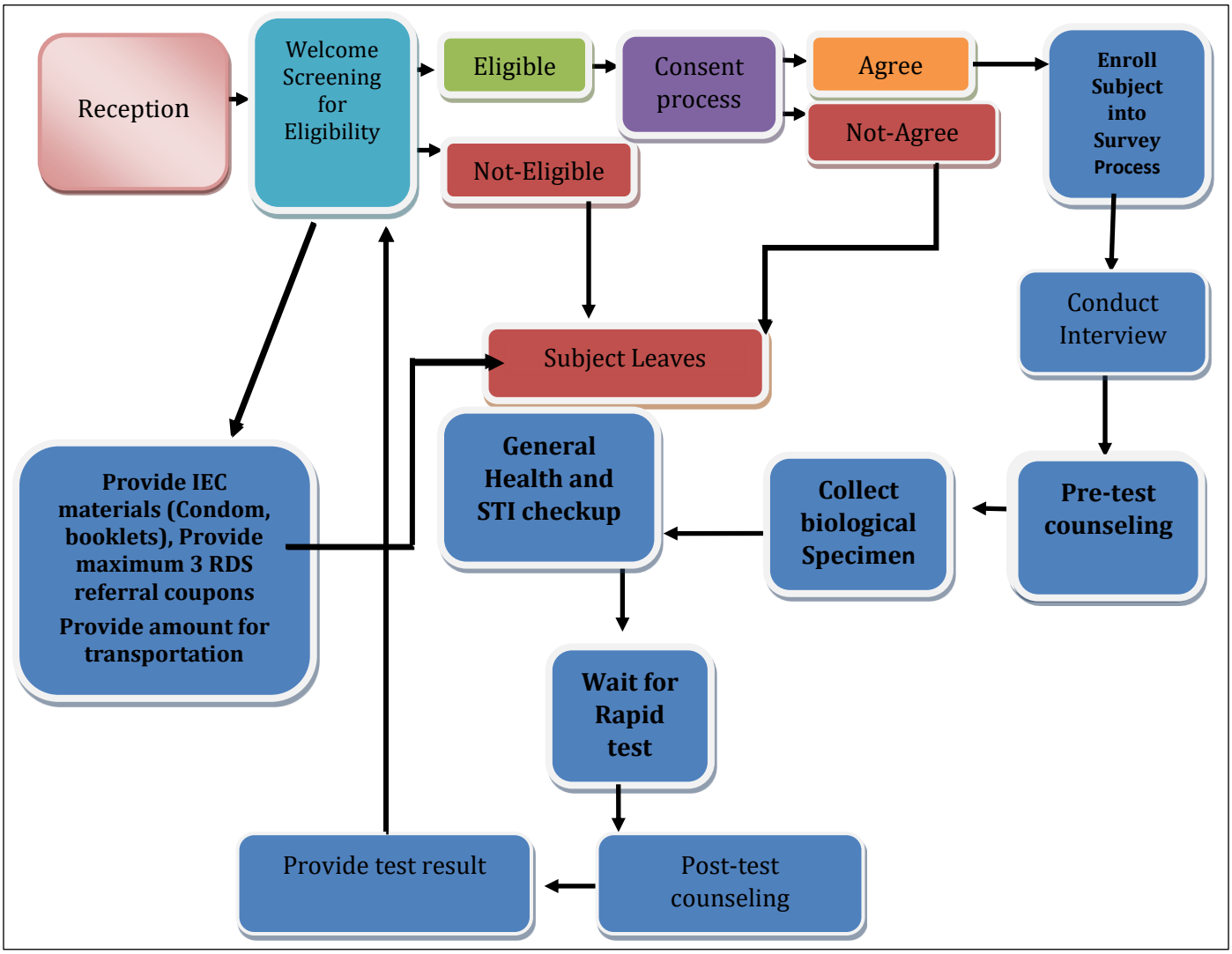


Figure 2.3: Field Survey Process

2.6 Training of Field Team and Pretesting of Survey Tools

The survey team was comprised of a central team and a field team; team leader led central field team with a research officer, a data analyst, a report editor, a finance officer and an admin assistant while two field teams were deployed in command of two field coordinators each team comprised of a counselor, a clinician, a lab technician and three field researchers. The field had also deployed 4-10 outreach workers and 4-6 runner staffs on the basis of needs from the local CBOs of MSM/TG to support fieldwork activity.

A five days training package from 22nd March to 27th March 2018 was carried out to train, especially field researchers, supervisors, lab technician, clinician and counsellors by following National IBBS training manual in Kathmandu. The objectives of the training were to familiarize and instruct the team members with the study objectives, the characteristics of the survey population, rapport-building techniques, the contents of the questionnaire, consent form; written informed consent taking process, clinical and laboratory processes and procedures including universal precaution and waste management during the survey period.

The survey questionnaire was pre-tested in tablets on the last day of the training. The drafted survey tools were piloted among MSM/TG community at Parichaya Samaj Lalitpur. Altogether 6 respondents from MSM/TG community were included in the pre-testing process of survey tools. Findings from pre-testing of survey tools were uploaded in data server which was then analyzed and reviewed by survey team and NCASC team to incorporate the necessary changes (addressed missed skip pattern, the addition of response categories etc) in the survey tools on the basis of findings from the pre-test.

2.7 Fieldwork

The IBBS survey among MSM/TG in the Tarai Highway Districts was started in March 2018 and completed in June 2018, and the field work for data collection was done in the month of April and two field teams were mobilized for data collection in the field.

Centrally located RDS centers were established for the data collection, one in Itahari to cover the respondents of Jhapa, Morang and Sunsari districts, one in Bhairahawa that covered the respondents of southern part of Rupandehi and Kapilbastu districts, one in Butwal which covered the respondents of northern part of Rupandehi and Nawalparasi districts and one in Dhangadhi which covered the respondents of Kailali and Kanchanpur districts. There were eight separate rooms in each RDS centers as mentioned below:

1. Reception room: respondents get entry card to enter the welcome room after qualifying from screening.

2. Welcome room: the respondents were welcomed for the participation and provided a survey tracking card with a unique Identity Number (ID No.). The survey tracking card was circulated with respondent to each room, after completion, the research staff signed on the card, and finally returned to the welcome room. It was ensured that respondents completed all the steps and were eligible to get incentives.
3. Interview room: Three separate interview rooms were set up for the face to face interview.
4. Counseling room: A separate counseling room was set up for the pre and post-test counseling. Pre-test counseling was carried out after interview, prior to referral for the lab test and post-test counseling was performed after the lab report got ready.
5. Laboratory room: HIV and Syphilis test was undertaken, taking out 5ml blood by lab technician.
6. Clinical examination room: STI check-up, anal swab and urine sample collection of the respondents was performed.

2.8 Clinical and Laboratory Procedures

Following clinical and laboratory procedures were applied during the field work of IBBS survey among MSM/TG in the Tarai Highway Districts of Nepal:

2.8.1 Clinical Procedures

A static clinic was established at each survey site to provide the clinical services to survey respondents, especially for STI diagnosis and treatment. The respondents were clinically examined for STI symptoms and basic health checkup (measuring blood pressure, body temperature, weight, and pulse) and provided symptomatic treatment to the respondents in accordance with the National STI Case Management Guidelines (NCASC, 2016). Trained clinicians had collected anal swab and urine from the suspected syndromic cases for Chlamydia Trachomatis (CT) and Neisseria Gonorrhea (NG) test. Collected samples of urine and anal swab were labelled with respondent's unique ID and then stored on less than 2^0 C temperatures, and all the stored samples were sent to Ojaswi Laboratory Kathmandu in every three days for safe storage before sending them for the test.

Urine and Swab Samples Collection

Real-time PCR, using Goffin Molecular Technologies Presto Chlamydia trachomatis (CT)-Neisseria Gonorrhea (NG) Assay kit was used for testing Gonorrhea and Chlamydia. Twenty ml of first catch urine was taken at least two hours after the last void was collected. Urine was collected in a sterile universal urine plastic container size of 20 ml screw cap tube. The urine container was stored at below 2^0 C temperatures and sent to National Public Health Laboratory (NPHL) on the same day. The anal swab was collected by inserting the swab

stick about 2.5 cm deep into the anal canal, stick was rotated and moved gently from side to side for 3-5 seconds before removing. The collected swab was placed in the Amplicor STM tube. Both urine and anal swab containers were immediately marked with ID number, collection date and time and sent to NPHL for PCR testing by maintaining cold chain.

2.8.2 Laboratory Methods

Laboratory Service entailed on-site rapid screening of HIV1/2 and Syphilis followed by a confirmation test. About 5 ml of whole blood was drawn from each MSM/TG using disposable syringes. The blood sample was placed in a centrifuge to separate the blood cells from the serum. Each sample was labeled with the ID number of the respondents. An experienced lab technician performed both HIV rapid tests and Syphilis RPR tests. Ojaswi Polyclinic Private Limited (Laboratory) facilitated and maintained all the standards of laboratory. Universal precautions and waste management protocol was followed. All positive and a random 10 percent of the negative samples of HIV, Syphilis, gonorrhoea and Chlamydia were sent to National Public Health Laboratory (NPHL), Teku, Kathmandu for External Quality Assurance (EQA).

Blood Sample Collection

Before collecting blood sample from participant, National HIV testing and counseling protocol was followed. Pre-test counseling was done by trained counselors and sought their consent to take blood for HIV and STI testing. Blood samples for testing HIV and Syphilis were taken from each participant using a 5ml disposable syringe. Each sample was labelled with the respondent's ID number. Collected sample was placed in a centrifuge to separate the blood cells from the serum. The specimens were placed in a cold box and in fridge managed at RDS center at the end of the day and sent to Ojaswi Policlinic and Laboratory by maintaining cold chain after every three days. At the survey site separated serum samples were stored in the deep fridge -8°C to -15°C. The lab technician as well as the field coordinators regularly monitored the temperature with a digital thermometer inside the refrigerator and maintained the logbook of the measured temperature.

Respondents were tested for syphilis with the Rapid Plasma Reagin (RPR) test card. All samples with positive RPR were sent to Ojaswi Policlinic and Laboratory for further diagnosis with *Serodia Treponema pallidum Hemagglutination* test.

HIV Test

The HIV screenings of serum samples was performed by using rapid test kits following the national HIV testing algorithm and National HIV Testing and Treatment Guideline 2017[3].

[3] NCASC, National_HIV_testing_and_Treatment_Guidelines_2017.

Determine HIV$^{1/2}$ (Abbot, Japan), Uni-Gold HIV$^{1/2}$ (Trinity Biotech, Ireland), and STAT-PAK HIV$^{1/2}$ (Chembio diagnostics), as per the National HIV Testing and Treatment Guideline 2017 was used to HIV screening of the respondents. All the kits were based on the immune chromatography principle for detecting antibodies against HIV in serum or blood. Serum that tested reactive with the Determine HIV$^{1/2}$ initial kit (A1) was confirmed with Uni-Gold HIV$^{1/2}$ second kit (A2) and Stat Pak HIV$^{1/2}$ Third Kits (A3). Samples that were found reactive on all three (A1, A2 and A3) tests were considered HIV positive. Samples those are non-reactive on the Determine HIV$^{1/2}$ first test (A1) were considered HIV negative. Any sample that was reactive on the Determine HIV$^{1/2}$ first (A1), Uni-Gold HIV$^{1/2}$ second (A2) test and nonreactive on the Stat Pak HIV$^{1/2}$ third test (A3) was then repeated all three test (A1, A2, and A3) with same individual sample and if retested sample produced the same result then the sample was considered HIV inconclusive. In such situation the respondents having inconclusive result was suggested to repeat the test after 14 days by the counsellor and they were also informed about the available HIV testing facilities in their vicinity. The internal quality of the assay was assured by the inbuilt control of each kit and external quality was assured by sending all positive cases and 10% of negative cases to reference lab (NPHL).

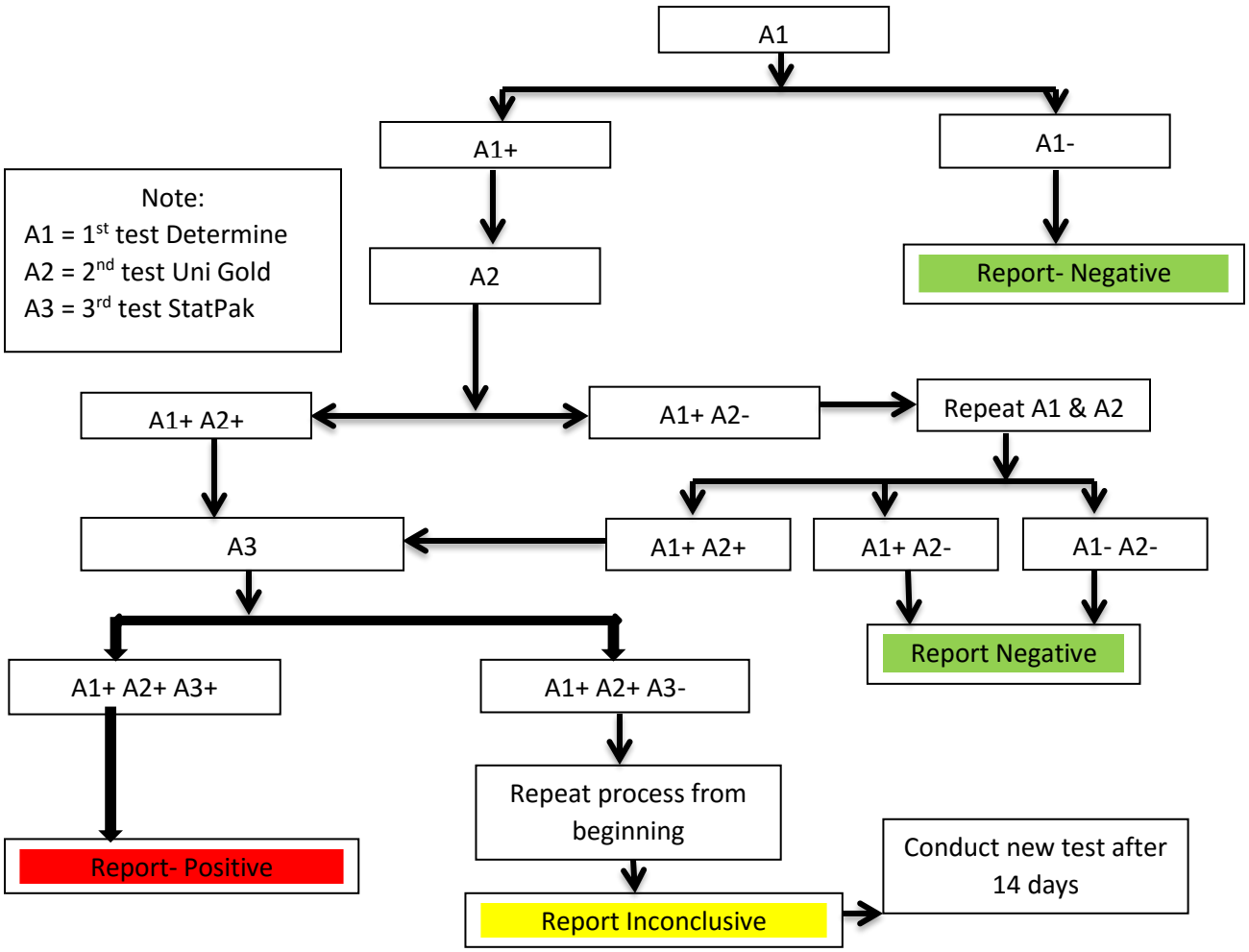


Figure 2.4: Diagrammatic Representation of Rapid HIV Testing Algorithm
Syphilis

A syphilis test was performed following the national guideline (National guideline on case management of sexually transmitted disease, (NCASC, 2016)). The serum was tested for nonspecific and specific treponemal agents. A non-treponemal test Rapid Plasma Reagin (RPR) [Becton, Dickson, and company USA] was used for both qualitative screening and quantitative titration. All RPR reactive serum was confirmed using the specific Treponema Pallidum Particle Agglutination (TPPA) test (Fujirebio Inc.). All the RPR positive serums were also tested by Treponema Pallidum Particle Agglutination (TPPA) test using Serodia TPPA as a confirmatory test. The Ojaswi Polyclinic and Laboratory Private Limited (SPDC) carried TPPA for further confirmatory test of Syphilis at its laboratory. On the basis of titre of RPR, all the specimens with RPR/TPPA-positive results were divided into two categories:

- TPPA-positive with RPR-negative or RPR-positive with titre< 1:8 were classified as showing a history of syphilis
- TPPA-positive with RPR titre of 1:8 or greater were classified as showing current syphilis requiring immediate treatment.

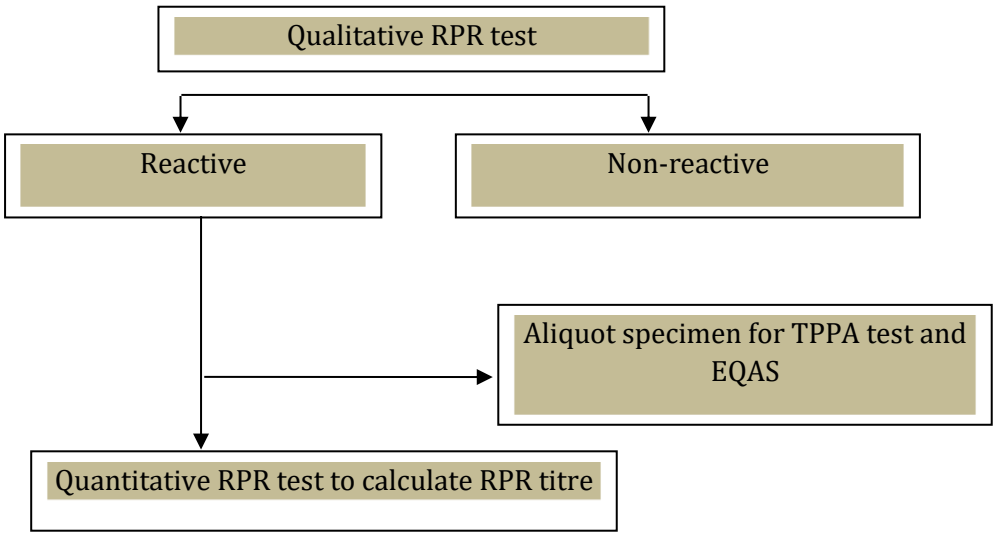


Figure 2.5 Syphilis Testing Algorithm

Pre and Post-Test Counseling and Test Results Distribution

Prior to the lab procedure, the respondents were invited for pre-test counseling, where they were informed about lab and clinical process, HIV and STI test, collection of blood, urine and swab sample. Information regarding symptoms and preventive measures of HIV and Sexually Transmitted Infections (STIs) and benefits of current tests were provided during the pre-test.

Post-test counseling was conducted after the preparation of lab report; the lab report was prepared within half an hour from the time of blood collection. Therefore, the respondents had to wait less than half an hour for the post counseling. The post counseling provided to all respondents according to the National HIV Testing and Treatment Guideline 2017. The respondents having positive test result were treated more carefully and provided available treatment or were referred to appropriate health service authorities.

Universal Precautions

Infection control was considered the major activities regarding universal precautions. Following precaution measures were applied during field work to prevent infections:

- Considered every biological sample infectious and potentially hazardous.
- Washed hands as well as used sanitary hygiene gel to prevent cross-contamination.
- Gloves were used before touching anything wet, broken skin, mucous membranes, blood or other body fluids (secretions or excretions) or soiled instruments and items.
- Protective goggles, masks and aprons were used for the protection from splashes and spills of any body fluids (secretions or excretions).
- Applied safe work practices such as not recapping or bending needles, safely passing sharp instruments and properly disposing of medical waste.

Waste management

There were different types of containers for collections depending on types of wastes generated in the clinic and laboratory settings. The person who generates the waste was responsible for putting it in the appropriate containers. Containers for collecting wastes were designated using defined colour-coding.

- Red color: For collecting contaminated hazardous wastes other than sharps. Used test kits, pipette tips, infected dressing material etc. are solid wastes and collected separately from liquid wastes.
- Yellow color: For syringe needle and other sharp wastes generated in the survey. Needle were first destroyed by using needle cutter then placed into the container.
- Blue color: For hazard free wastes like paper, plastic covers of syringes and other uninfected materials.
- Liquid wastes: Collected in a container with 0.5% Sodium Hypochlorite solution. There was enough solution in the container so that even when liquid waste was added, the concentration of the solution remained approximately the same.

Disposal of Waste

For the disposal of waste, nearby zonal/district hospital were requested so that all the waste generated from the clinic and laboratory were sent to the corresponding hospital in closed containers each day after the completion of field work. The waste generated other than the clinic and laboratory was collected at hotel's collection site to send at local dumping site. Both the lab technician and clinician were responsible for managing the generated waste.

Post Exposure Prophylaxis (PEP)

In case of post-exposure prophylaxis (PEP), a reference person (doctor or ART counselor) of nearby ART center/Hospital was contacted for an immediate response on such accident. The contact detail of PEP reference person was displayed on laboratory, clinic and welcome rooms for the immediate contact on the need of PEP. All the field staffs were provided instructions regarding PEP, and PEP chart was displayed in each survey room.

Immediate Steps of PEP

- Notify doctor, evaluate risks, and make decision based on High Risk, Low Risk or No Risk
- Needle pricks, cut, bites or scratches should be washed thoroughly with soap and running water
- Eyes should be irrigated with sterile water/normal saline
- Splashes to nose, mouth and skin should be flushed with plenty of water

2.9 Fieldwork Supervision and Monitoring

The progress of the fieldwork was closely monitored throughout the survey period. The team leader visited survey sites on an ongoing basis for monitoring, supervision and assistance purposes. A tracking sheet was developed to track the number of interviews per day in each site. A monitoring checklist was prepared on the basis of survey protocol to check whether the survey process was followed the survey protocols or not. During each visit on RDS center, team leader and research officer had filled-up the monitoring checklist and recommended the field staffs to ensure necessary provisions if any inconsistencies or lacking observed. The team leader and research officer had re-visited the RDS center whether the recommendations were appropriately implemented or not.

External monitors from NCASC also monitored the fieldwork. The director of NCASC had visited Dhangadhi RDS center for the monitoring of survey process while SI focal person of NCASC had visited Itahari RDS center. The feedbacks provided by NCASC were incorporated during rest of the fieldwork. Such as respondents obtained chart was not displayed initially but the diagram was displayed after monitoring feedback, and samples for EQAS were stored in the freezer to maintain cold chain at the RDS center, which was delivered to Kathmandu NIDR office after feedback. BDS central team was also involved in monitoring of survey process and provided relevant feedbacks that were incorporated during the fieldwork.

Similarly, quality of the data collection was maintained throughout the study period. The team leader and research officer were involved in the quality control from the initial stage

of the fieldwork. They reviewed documents and collected data to ensure that, 1) the RDS sampling method was properly applied on respondents' selection; 2) correct number of MSM/TGs were interviewed.

2.10 Quality Control of Laboratory Tests and External Quality Assurance Scheme

Quality control was maintained throughout the process of specimen collection, handling and testing. The Team Leader and Research Officers were responsible for internal quality control. Survey team took immediate actions based on the feedback given by the external monitoring team (NCASC). Similarly, field coordinators, field supervisors, and field researchers were responsible for ensuring the quality of behavioral data collection according to the protocol.

Regular meeting with survey team and BDS team regarding quality of information and recruitment of quality respondents ensured quality control. Similarly, keeping systematic records of test results with ID numbers, storage and cold chain maintenance of blood samples were the steps taken for quality control. Regarding the rapid HIV testing, Lab Technician did the test in the field itself using recommended national algorithm.

Determine HIV-1/2 as primary identifier, Uni-Gold HIV1/2 was used for confirmatory test while StatPak HIV1/2 was used as a tiebreaker in case of discordant result from the two tests. Similarly, further confirmation test of Syphilis and TPHA was done at Ojaswi Polyclinic and Laboratory at Kathmandu. Finally, all positive samples and randomly selected 10% of negative samples of both HIV and Syphilis were submitted to the NPHL for external quality assurance.

Lab technicians, clinicians and lab coordinator from Ojaswi Polyclinic and Laboratory were fully responsible for overall management of quality assurance of collected biological specimens. Lab technicians and clinicians were responsible for cold chain maintenance and protection of specimens during fieldwork while lab coordinator assured transportation of samples within 3 days.

Total 28 HIV positive samples along with 10 percent of negative samples were sent to NPHL for EQAS; 27 samples were verified as positive and one sample was reported inconclusive.

Table 2.1: External Quality Assurance Scheme (EQAS) Result of NPHL

Sample	Total sample send to NPHL	Result Verified by NPHL
All HIV Positive	28	27
10% of Total HIV Negative	31	31
Inconclusive	0	1

Total HIV sample	59	59
All Syphilis Positive	15	13
10% of Total Syphilis Negative	33	35
Total Syphilis Sample	48	48

2.11 Data Management and Analysis

The data collected from the field were sent to central server managed on ODK software then the database developer extracted on excel sheet. Then data analyst added the data labels and performed data management in the SPSS software. The obtained data in excel sheet was first cleaned thoroughly observing for any inconsistencies and errors by the data analyst in support of team leader, and research officer and they then were shared to NCASC technical team for the verification. After the verification from NCASC technical team, the data was analyzed in SPSS and STATA.

As the survey was based on the RDS sampling method, some of the data were calculated by using STATA to produce RDS adjusted estimate. All the RDS related estimates were adjusted to represent the structure of the survey population which is based on information regarding who recruited whom, and the relative size of the respondents' network using the Volz–Heckathorn estimator. All analysis were performed using STATA version 15 software (STATA Corporation, College Station, TX).

2.12 Ethical Considerations

The survey was conducted in compliance with both ethical and human rights standards. These standards included respondents' anonymity as well as pre- and post-test counseling. As the study was done with individuals, who were often stigmatized an unethical, clinical approval, was obtained from Nepal Health Research Council (NHRC) prior to the fieldwork. The study protocols were carefully reviewed. Verbal and witnessed consent was obtained from all the respondents in a private setting before the interview and clinical test. No personal identifiers were collected in tablet based questionnaire. However, we used written informed consent and requested participants to write their short name or nickname with signature (signature should not be a real one which they use for the official purpose). We requested minors and MSM and TG with no formal education to cross 'X' sign in the informed consent document instead of their signature. However, informed consent was not linked with the tablet-based questionnaire.

All the respondents were provided with a unique identification (ID) number written on a colored printed card. The same identifier was marked on the questionnaire, medical records, and all biological specimens collected from that particular respondent. This card

was also used for the distribution of the test results. Trained counselors provided lab test results during the post-test counseling to only those respondents who produced the card. The survey team maintained the confidentiality of the data collected throughout the survey.

2.13 Survey Constraints/Limitations

The survey limitations were as mentioned below:

- There were three separate locations for the survey where there was no any possibility of cross recruitment of respondents (i.e., survey respondents of Kailali were not recruiting the respondents of Sunsari due to long distance).
- As the survey was conducted in only eight districts of Tarai Highway, the survey cannot represent the overall Tarai Highway Districts of Nepal.

Chapter III: Results

This section presents data based on biological test of HIV and STIs and direct interviews with the MSM/TG population followed by seroprevalence data on HIV and STIs. The association between demographic and socio-economic data and HIV and STIs, and behavioral surveillance data are analyzed with the result of the biological test to find out the relationship between demographic and socioeconomic features (N=340).

3.1 Key Socio-demographic Characteristics

This section presents data on the distribution of sample by age, marital status, education, occupation, caste/ethnicity and monthly income of respondents.

Table 3.1: Distribution of Respondents by Demographic Characteristics (N=340)

Demographic Characteristics	**MSM**		**TG**		**Total**	
Age of respondent (in yrs.)	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
16-19	35	17.4	9	6.5	44	12.9
20-24	77	38.3	33	23.7	110	32.4
25-29	21	10.4	25	18.0	46	13.5
30-34	22	10.9	18	12.9	40	11.8
35-39	21	10.4	15	10.8	36	10.6
40+	25	12.4	39	28.1	64	18.8
Mean/SD of Age	27/9		32/11		29/10	
Median Age	23		30		26	
(Range)	(17-56)		(17-62)		(17-62)	
Current Marital Status	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	75	37.3	52	37.4	127	37.4
No	126	62.7	87	62.6	213	62.6
Sex of married Partner	**N=75**	**%**	**N=52**	**%**	**N=127**	**%**
Male/meti	2	2.7	12	23.1	14	11.0
Female	73	97.3	40	76.9	113	89.0
Currently living with a regular sexual partner	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	93	46.3	72	51.8	165	48.5
No	108	53.7	67	48.2	175	51.5
Currently living with	**N=93**	**%**	**N=72**	**%**	**N=165**	**%**
Male/Meti	33	35.5	48	66.7	81	49.1
Wife	45	48.4	23	31.9	68	41.2
Other female	9	9.7	--	--	9	5.5
Transgender	6	6.5	1	1.4	7	4.2

Table 3.1 shows the percentage of respondents living into different areas and age group they belong in IBBS survey 2018. Total numbers of respondents in this survey were 340. Among them, 201 were from MSM and 139 respondents were from TG. All of respondents were categorized into six groups on the basis of their age. Majority of the respondents (32.4%) belonged to 20- 24 years age group in MSM/ TG. The mean and Standard Deviation (SD) of age of respondents were found 29 and10 years respectively. In this survey 37.4 percent respondents were married, and 62.6 percent of respondents were found unmarried.

Table data shows that 46.3 percent MSM were currently living with a regular sexual partner and 53.7 percent were not currently living with a regular sexual partner. Similarly, 51.8 percent of TG were found currently living with a regular sexual partner, and 48.2 percent were not currently living with a regular sexual partner. Out of 165 respondents, 49.1 percent were found currently living with male/*meti* and 4.2 percent were living with transgender.

Table 3.2: Distribution of Respondents by Social Characteristics (N=340)

Social Characteristics	**MSM**		**TG**		**Total**	
Education	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Illiterate	16	8.0	19	13.7	35	10.3
Literate, no schooling	17	8.5	16	11.5	33	9.7
Primary	14	7.0	22	15.8	36	10.6
Secondary	31	15.4	32	23.0	63	18.5
SLC and above	123	61.2	50	36.0	173	50.9
Ethnic/Caste group	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Dalit	10	5.0	13	9.4	23	6.8
Disadvantaged Janajatis	95	47.3	82	59.0	177	52.1
Disadvantaged non-dalit Tarai caste groups	23	11.4	12	8.6	35	10.3
Religious Minorities	6	3.0	10	7.2	16	4.7
Newar, Thakali, Gurung	7	3.5	5	3.6	12	3.5
Brahman/Chhetri	60	29.9	17	12.2	77	22.6
Religion	**N=199**	**%**	**N=137**	**%**	**N=336**	**%**
Hindu	176	88.4	110	80.3	286	85.1
Buddhist	4	2.0	9	6.6	13	3.9
Muslim	9	4.5	10	7.3	19	5.7
Christian	5	2.5	6	4.4	11	3.3
Kirant	5	2.5	2	1.5	7	2.1

Table 3.2 represents the education, caste group/ethnicity and religion of the respondents. In this study, the education level of the participants' show that the majority of the respondents 61.2 percent (MSM) and 36 percent (TG) were found to have School Leaving Certificate (SLC) and above.

More than half (52.1%) of the respondents who participated in the survey belonged to the disadvantaged Janjati followed by Dalit caste groups (6.8%), disadvantaged non-Dalit Tarai caste (10.3%), and Brahman/Chhetri (22.6%). Only a few respondents (3.5%) were from Newari, Thakali, Gurung and relatively religious minorities 4.7 percent.

Similarly, the majority of the respondents were from Hindu religion (85.1%) and only a few respondents were from Kirant religion (2.1%).

Table 3.3: Distribution of Respondents by Occupational Background and Income of the Respondents

Type of major occupational	**MSM**		**TG**		**Total**	
Occupation type	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Student	60	29.9	3	2.2	63	18.5
Driver	9	4.5	0	0.0	9	2.6
Police	1	0.5	0	0.0	1	0.3
Civil servant	5	2.5	0	0.0	5	1.5
Businessman	17	8.5	19	13.7	36	10.6
Private company staff	23	11.4	16	11.5	39	11.5
Unemployed	8	4.0	11	7.9	19	5.6
Laborer/wage labor	54	26.9	22	15.8	76	22.4
Sex worker	8	4.0	34	24.5	42	12.4
Artists	5	2.5	23	16.5	28	8.2
Farmer	11	5.5	11	7.9	22	6.5
Last month's income in NRs.	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Below 3000	9	4.5	7	5.0	16	4.7
3001-6000	13	6.5	15	10.8	28	8.2
6001-10000	20	10.0	23	16.5	43	12.6
Above 10000	95	47.3	81	58.3	176	51.8
No response	64	31.8	13	9.4	77	22.6
Descriptive Statistics of monthly income	**N=137**		**N=126**		**N=263**	
Mean/SD	17863.5/14683		19261.9/15862		18533.4/15862	
Median	15000		15000		15000	
Range	(300-90000)		(500-99000)		(300-99000)	

Table 3.3 displays data on major occupation, last month's income and descriptive statistics of the monthly income of respondents who were categorized into two groups, i.e. MSM and TG. Out of 340 respondents, 29.9 percent MSM and 2.2 percent TG were from student group followed by 4.5 percent MSM who were drivers, 0.5 percent MSM who were Police, 2.5 percent MSM were civil servants, 8.5 percent MSM and 13.7 TG were businessmen, 11.4 percent MSM and 11.5 percent TG were private staffs, 4 percent MSM and 7.9 percent TG were unemployed, 26.9 percent MSM and 15.8 percent TG were laborers/wage labors, 4

percent MSM and 24.5 percent TG were sex workers, 2.5 percent MSM and 16.5 percent were Artists and 5.5 percent MSM and 7.9 percent TS were farmers as their occupational group.

Similarly, RDS adjusted data shows that 47.3 percent MSM and 58.3 percent TG had a high income last month which was above NRs. 10000, 4.5 percent MSM and 5 percent TG had a the income below NRs. 3000 and 22.6 percent of the respondents did not respond. The mean of descriptive statistics of monthly income was 19261.9.

3.2 Migration and Mobility

This section presents data on the distribution of sample by birthplace and currently living district of respondents.

Table 3.4: Distribution of Respondents by Currently Living District

General information	MSM		TG		Total	
Currently living districts	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Eastern region	61	30.3	59	42.4	120	35.3
Western region	61	30.3	59	42.4	120	35.3
Far western region	79	39.3	21	15.1	100	29.4

In table 3.4, the analytical data shows that each of 61 percent MSM and 59 percent TG were currently living in Eastern and Western region and 39.3 percent MSM and 15.1 percent were currently residing in Far-western region.

3.3 Behaviour (Sexual Behaviour)

In this section, data is presented for sexual behaviours; age of respondents when they had the experience of first sexual intercourse, total number of partners in past month (mean, median, range, and standard deviation), condom use with different partners, condom use at last anal sex and use of lubricant of respondents.

Table 3.5: Sexual Behavior among MSM and TG

Sexual Behavior	MSM		TG		Total	
Age at first sexual intercourse	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
10-16	89	44.3	112	80.6	201	59.1
17-20	95	47.3	24	17.3	119	35.0
21-30	16	8.0	3	2.2	19	5.6
No response	1	0.5	0	0.0	1	0.3
Mean/SD	16.8/3		14.3/3		15.8/3	
Median	17		14		16	
Range	(10-30)		(10-30)		(10-30)	
First Sex Partner						
Male/meti	119	59.2	135	97.1	254	74.7
Female	82	40.8	4	2.9	86	25.3

Ever had sex with a male/meti in exchange for money	N=201	%	N=139	%	N=340	%
Yes	32	15.9	101	72.7	133	39.1
No	169	84.1	38	27.3	207	60.9
Age at fist sex with male/meti for money	**N=32**	**%**	**N=101**	**%**	**N=133**	**%**
10-16	4	12.5	30	29.7	34	25.6
17-20	12	37.5	41	40.6	53	39.8
21-30	10	31.25	27	26.7	37	27.8
Don't remember	2	6.25	2	2.0	4	3.0
No response	4	12.5	1	1.0	5	3.8
Mean/SD	20.7/5		19.3/6		19.6/6	
Median	20		18		18	
Range	(14-38)		(10-55)		(10-55)	

Table 3.5 shows data of the respondents on their sexual behaviors among MSM and TG. The data indicates that majority of the MSM (47.3%) belonged to 17-20 years of age group when they had attempted first sexual intercourse and among TG (80.6%) they belonged to 10-16 years of age group when they had attempted first sexual intercourse. The mean of age at first sexual intercourse was 15.8 years and range of age at first sexual intercourse was 10-30 years.

In total, around two-third (74.7%) of the MSM/TG had their first sex with male/*meti* while only 25.3 % MSM/TG had first sex with a female partner.

About 39.1 percent of MSM/TG ever had sex with a male/*meti* in exchange for money. Almost same (39.8%) of the MSM/TG respondents had their first sex with a male in exchange for money when they were 17-20 years. The median age while having first sex with a male in exchange for money was 18 years. The age of having the first sex with a male in exchange for money varied from 10-55 years.

Table 3.6: Distribution of Respondents by Number of different partners in past month

Number of different Sex Partners	MSM		TG		Total	
Number of non-paying male sex partner	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
None	58	28.9	26	18.7	84	24.7
One	40	19.9	23	16.5	63	18.5
Two-Five	85	42.3	68	48.9	153	45.0
>Five	18	9.0	22	15.8	40	11.8
Mean/SD	3.1/3		4.0/4		3.5/3	
Median	2		3		2	
Range	(1-20)		(1-30)		(1-30)	

Number of non-paying female sex partner	**N=142**	**%**	**N=34**	**%**	**N=176**	**%**
None	42	29.6	13	38.2	55	31.3
One	70	49.3	15	44.1	85	48.3
Two-Five	29	20.4	4	11.8	33	18.8
>Five	1	0.7	2	5.9	3	1.7
Mean/SD	1.9/2		1.8/1		1.6/1	
Median	1		1		1	
Range	(1-8)		(1-6)		(1-8)	
Number of one-time paying male sex partner	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
None	134	66.7	41	29.5	175	51.5
One	29	14.4	19	13.7	48	14.1
Two-Five	30	14.9	49	35.3	79	23.2
>Five	8	4.0	30	21.6	38	11.2
Mean/SD	3.6/7.8		5.5/7.2		4.7/7.5	
Median	2		3		2	
Range	(1-60)		(1-60)		(1-60)	
Number of regular paying male sex partner	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
None	127	63.2	44	31.7	171	50.3
One	21	10.4	12	8.6	33	9.7
Two-Five	40	19.9	49	35.3	89	26.2
>Five	13	6.5	34	24.5	47	13.8
Mean/SD	3.5/3.8		6.4/6.7		5.2/5.8	
Median	2		4		3	
Range	(1-20)		(1-40)		(1-40)	
Number of paid male sex partners	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
None	143	71.1	127	91.4	270	79.4
One	31	15.4	3	2.2	34	10.0
Two-Five	26	12.9	9	6.5	35	10.3
>Five	1	0.5	0	0.0	1	0.3
Mean/SD	1.7/1.5		2.2/0.9		1.8/1.5	
Median	1		2		2	
Range	(1-12)		(1-4)		(1-12)	
Number of paid female sex partners	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
One	186	92.5	136	97.8	322	94.7
Two-Five	15	7.5	2	1.4	17	5.0
Don't remember	0	0.0	1	0.7	1	0.3
Mean/SD	1.1/0.5		1/0.3		1.1/0.4	
Median	1		1		1	

Range	(1-5)	(1-4)	(1-5)

Table 3.6 indicates that 28.9 percent MSM and 18.7 percent TG had no any non-paying male sex partner in the past months. Above two fifths (42.3%) of MSM and nearly half (48.9%) of TG had 2-5 male sex partners in the past months. The range of having non-paying male sex partners with MSM/TG was 1-30 in the past months.

Around one third (31.3%) of MSM/TG among the respondents had no any non-paying female sex partners in the past months. Nearly half of the respondents (48.3 percent MSM and 44.1 percent TG) had 2-5 non-paying female sex partners in the past months. Only 1.7 percent reported that they were having more than five non-paying male sex partners in the same period.

Similarly, 50.3 percent of the respondents had no any regular paying male sex partner, 9.7 percent had one, 26.2 percent had 2-5 and 13.8 percent of MSM/TG had more than 5 regular paying sex partners in the past months. The range of having regular paying male sex partners with MSM/TG was 1-40 in the past months. In total, the number of paid male and female sex partners range was 1-12 and 1-5 respectively.

Table 3.7: Association between uses of condom with a different partner

Uses of Condom with different Sex partners	**MSM**		**TG**		**Total**	
Used Condom in the last anal sex with non-paying male sex partner	**N=139**	**%**	**N=111**	**%**	**N=250**	**%**
Yes	89	64.0	71	64.0	160	64.0
No	50	36.0	40	36.0	90	36.0
Used Condom in the last vaginal/anal/oral sex with non-paying female sex partner	**N=100**	**%**	**N=21**	**%**	**N=121**	**%**
Yes	53.0	53.0	12.0	57.1	65.0	53.7
No	47.0	47.0	9.0	42.9	56.0	46.3
Used Condom in the last anal sex with one-time paying male sex partner	**N=64**	**%**	**N=97**	**%**	**N=161**	**%**
Yes	44.0	68.8	71.0	73.2	115.0	71.4
No	20.0	31.3	26.0	26.8	46.0	28.6
Used Condom in the last anal sex with regular male paying sex partner	**N=72**	**%**	**N=92**	**%**	**N=164**	**%**
Yes	48	66.7	64	69.6	112	68.3
No	23	31.9	26	28.3	49	29.9

Don't remember	1	1.4	1	1.1	2	1.2
No response	0	0.0	1	1.1	1	0.6
Used Condom in the last vaginal or anal sex with paid female sex partner	**N=37**	**%**	**N=4**	**%**	**N=41**	**%**
Yes	28	75.7	4	100	32	78.0
N0	9	24.3	0	0	9	22.0

Table 3.7 shows that the majority of MSM/TG (64%) were found using condom in the last sex with non-paying male sex partners which was higher than the use of condom by MSM/TG (53.7%) in the last sex with non-paying female sex partners.

Similarly, 68.3 percent of MSM/TG were found using condom in the last anal sex with regular male paying sex partners however 78 percent of MSM/TG were found using condom in the last anal sex with regular female paying sex partners.

Table 3.8: Distribution of Respondents by Condom use at last anal sex

Condom use behaviors	**MSM**		**TG**		**Total**	
Used condom in last anal Sex	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	116	57.7	81	58.3	197	57.9
No	59	29.4	40	28.8	99	29.1
Don't know	2	1.0	3	2.2	5	1.5
No response	24	11.9	15	10.8	39	11.5
Used condom in last anal Sex with male sex partner	**N=129**	**N=49**	**N=178**	**N=44**	**N=118**	**N=167**
Yes	128	63.7	91	65.5	219	64.4
No	71	35.3	47	33.8	118	34.7
Don't know	0	0.0	1	0.7	1	0.3
No response	2	1.0	0	0.0	2	0.6

The data above represents about the consistent condom use with last sex partners. Only half of respondents (57.9% MSM/TG) were found using condom in last anal sex, 29.1 percent of MSM/TGs were found not using condom in last anal sex, 1.5 percent of MSM/TG answered that they did not know and 11.5 percent MSM/TG did not answer. Similarly, 64.4 percent of MSM/TGs were found using condom in last anal Sex with male sex partners however 34.7 percent were found not using condom.

Table 3.9: Distribution of Respondents by Availability and Possession of Condom

Availability of Condom	**MSM**		**TG**		**Total**	
Can you obtain a condom every time you	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**

need it						
Yes	154	76.6	107	77.0	261	76.8
Not aware of condom	42	20.9	30	21.6	72	21.2
No	5	2.5	2	1.4	7	2.1
Reason for not being able to have condom when needed*	**N=47**	**%**	**N=32**	**%**	**N=79**	**%**
Cost too much	0	0.0	3	9.4	3	3.8
Shop/Pharmacy too far away	22	46.8	18	56.3	40	50.6
Shops/Pharmacies closed	9	19.1	9	28.1	18	22.8
Shy to buy condom	16	34.0	9	28.1	25	31.6
Don't know where to obtain	1	2.1	1	3.1	2	2.5
Don't want to carry condom	22	46.8	8	25.0	30	38.0
Others	8	17.0	4	12.5	12	15.2

**Note: Percentage may exceed 100 due to multiple responses.*

Table 3.9 shows the data regarding the availability of condom. Maximum of (76.8% MSM/TG) respondents told that they would easily obtain a condom every time they need, 21.2 percent were found not being aware of condom use, and 2.1 percent told that they were not able to obtain a condom every time they need. The main reason for not being able to have condom when they needed was that the shops/pharmacies where condoms were found were too far from theirs residence. Almost half (50.6%) of MSM/TG were not being able to have condom due to long distance they need to travel to get condoms. Similarly, 3.8 percent of MSM/TG told that they couldn't get condoms due to high cost, 22.8 percent told that the Shops/Pharmacies used to be closed when they needed condoms, 31.6 percent were found being shy to buy condoms, 2.5 percent were found not knowing from where condoms can be obtained, 38 percent told that they didn't want to carry condom and 15.2 percent shared other reasons for not being able to have condom when needed.

Table 3.10: Distribution of Respondents by Use of Lubricant

Use of lubricant	MSM		TG		Total	
Ever used lube in anal sex	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	130	64.7	123	88.5	253	74.4
No	71	35.3	16	11.5	87	25.6
Types of lubricant used in the last anal sex	**N=130**	**%**	**N=123**	**%**	**N=253**	**%**
Saliva	14	10.8	4	3.3	18	7.1
Oil	6	4.6	2	1.6	8	3.2
Water based lube	106	81.5	114	92.7	220	87.0
Cream/lotion	3	2.3	0	0.0	3	1.2

Other (Specify)	1	0.8	2	1.6	3	1.2
Don't know	0	0.0	1	0.8	1	0.4

Table 3.10 shows that 88.5 percent of TG and 64.7 percent of MSM had ever used lubricant while having anal sex. In the same way, 35.3 percent of MSM and 11.5 percent of TG ever used lubricant. Most of the MSM/TGs (87%) were found using water-based lube in the last anal sex followed by saliva (7.1%), oil (3.2%) and cream/lotion (1.2%) respectively.

3.4 Other Risk Behaviour

This section presents data on the distribution of sample by Alcohol Consumption and use of drug, use of hormone among the respondents.

Table 3.11: Distribution of Respondents by Alcohol Consumption

Consumption of alcohol	**MSM**		**TG**		**Total**	
Ever Consumed alcohol	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	128	63.7	71	51.1	199	58.5
No	73	36.3	68	48.9	141	41.5
Consumption of alcohol in last month	**N=128**	**%**	**N=71**	**%**	**N=199**	**%**
Everyday	6	4.7	12	16.9	18	9.0
3-4 days a week	43	33.6	21	29.6	64	32.2
At least once a week	66	51.6	33	46.5	99	49.7
Did not drink alcohol in the past week	13	10.2	5	7.0	18	9.0
Amount of Consumption of alcohol during last sex	**N=128**	**%**	**N=71**	**%**	**N=199**	**%**
A lot	11	8.6	10	14.1	21	10.6
Some	26	20.3	22	31.0	48	24.1
A little	30	23.4	20	28.2	50	25.1
No alcohol	59	46.1	19	26.8	78	39.2
Don't know/remember	1	0.8	0	0.0	1	0.5
No response	1	0.8	0	0.0	1	0.5

The above-presented data shows that more than half (58.5%) of the MSM/TG were found to have ever consumed alcohol. Majority of the MSM (51.6%) and TG (46.5%) were found using alcohol at least once a week in their last sex. Of those who consumed alcohol, 10.2 percent of MSM and 7 percent of TG did not use alcohol in their last sex.

The survey shows, 39.2 percent of MSM/TG did not consume alcohol during their last sex, 25.1% had a little, 24.1 percent had some and only 10.6 percent had a lot of consumption of alcohol during their last sex.

Table 3.12: Distribution of Respondents by use of Drug

Use of drugs	MSM		TG		Total	
Tablets	**Number**	**%**	**Number**	**%**	**Number**	**%**
Yes	3	1.5	3	2.2	6	1.8
No	198	98.5	136	97.8	334	98.2
Glue/dendrite						
Yes	1	0.5	1	0.7	2	0.6
No	200	99.5	138	99.3	338	99.4
Heroine						
Yes	1	0.5	0	0.0	1	0.3
No	200	99.5	139	100.0	339	99.7
Injected drugs in the last year						
Yes	5	2.5	4	2.9	9	2.6
No	196	97.5	135	97.1	331	97.4

Table 3.12 indicates the use of drug status among MSM and TG. In total, about 2.6 percent were found using Injected drugs in last year, 1.8 percent were found using tablets, 0.6 percent were found using Glue/dendrite, and 0.3 percent were found using Heroine in the last years.

3.5 Comprehensive Knowledge of HIV/AIDS

This section presents data on comprehensive knowledge of ABC and BCDEF among respondents.

Table 3.13: Comprehensive knowledge of ABC and BCDEF

Comprehensive knowledge of ABC and BCDEF	MSM	TG	MSW	Non-MSW	15-24 years	25 years and above	Total
	% (N=194)	% (N=139)	% (N=196)	% (N=144)	% (N=154)	% (N=186)	% (N=333)
A=Abstinence from sexual contact	61.9	63.3	65.1	58.7	58.4	65.8	62.5
B=Monogamous sexual contact	67.0	68.3	64.6	71.7	69.1	66.3	67.6
C=Consistent condom use during each sex	80.4	87.1	80.5	87.0	80.5	85.3	83.2
D= A healthy-looking	90.7	87.1	89.7	88.4	89.3	89.1	89.2

person can be infected with HIV							
E=A person cannot get HIV virus from mosquito bite	63.4	80.6	74.9	64.5	55.0	83.2	70.6
F= HIV is not transmitted while sharing a meal with an HIV infected person	83.0	88.5	89.2	79.7	75.2	93.5	85.3
Knowledge of all three indicators-ABC	43.8	45.3	42.6	47.1	40.9	47.3	44.4
Knowledge of all five indicators-BCDEF	32.5	48.2	41.5	35.5	27.5	48.4	39.0

Table 3.13 presents data on comprehensive knowledge of ABC and BCDEF among the respondents. Knowledge of D, F and C seemed to be higher in all groups of the respondents (MSM/TG/MSW/Non-MSW/15-24 years/25 years and above). Knowledge of A and B was relatively low in all groups. In total, 44.4 percent knew ABC while 39 percent only knew BCDEF.

3.6 Knowledge of STI, experienced Symptoms, and Treatment in the Past Year

This section presented data regarding Awareness of STI and reported STI symptoms in the past year of respondents.

Table 3.14: Awareness of STI and reported STI symptoms in the past year

Awareness of STI and reported STI symptoms in the past year	**MSM**		**TG**		**Total**	
Perceived symptoms of male STI (Multiple response)*	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Penis discharge	71	35.3	58	41.7	129	37.9
Burning pain during urination	51	25.4	49	35.3	100	29.4
Genital ulcers/sores	104	51.7	76	54.7	180	52.9

Swelling in groin area	44	21.9	35	25.2	79	23.2
Anal discharge	36	17.9	37	26.6	73	21.5
Anal ulcer/sores	70	34.8	64	46.0	134	39.4
Other	3	1.5	11	7.9	14	4.1
Don't know	65	32.3	35	25.2	100	29.4
No response	1	.5	0	0.0	1	.3
First step taken after experiencing STI symptoms*	**N=44**	**%**	**N=33**	**%**	**N=77**	**%**
Sought treatment from hospital	18	40.9	10	30.3	28	36.4
Sought treatment from chemist	14	31.8	9	27.3	23	29.9
Sought treatment from private doctor/ clinician	5	11.4	2	6.1	7	9.1
Sought treatment from BDS clinic	6	13.6	7	21.2	13	16.9
Received treatment from friend	2	4.5	1	3.0	3	3.9
Took medicine available at Home	0	0.0	5	15.2	5	6.5
Nothing	8	18.2	2	6.1	10	13
Other	0	0.0	3	9.1	3	3.9
Don't know	1	1.3	0	0	1	1.3

**Note: Percentage may exceed 100 due to multiple responses.*

Table 3.14 represents respondents' awareness on STI and reported STI symptoms in the past year. The 35.3 percent of MSM and 41.7 percent of TG respondents told that they sometimes felt penis discharge 25.4 percent of MSM and 35.3 percent of TG shred that they had burning pain during urination , 51.7 percent MSM and 54.7 percent TG felt genital ulcers/sores, 21.9 percent MSM and 25.2 percent TG were found having swelling in groin area , 17.9 percent MSM and 26.6 percent TG were found having Anal discharge and 34.8 percent MSM and 46 percent TG told that they had annual ulcer sores as the symptoms of STIs. In total, 29.4 percent MSM/TG told that they did not know any symptoms of STIs.

Out of those experienced respondents, only 40.9 percent of MSM and 30.3 percent of TG had received treatment from a hospital. Consultation with chemist was reported only by 31.8 percent of MSM and 27.3 percent of TG. About 16.9 percent of MSM/TG told that they used BDS clinics, 3.9 percent received treatment from friends. Moreover, 6.5 percent of MSM/TG took home medications and 1.3 percent of MSM/TG didn't experience anything.

3.8 Met with OE/PE, DIC, HTC, STI in past 6 months [Visited and frequencies]

This section presents data regarding perception on HIV testing, met/discussed/interacted with peer/Outreach educators/community mobilizer, outreach center visiting practices,

STI Clinic Visiting Practices, HTC visiting practices and exposure to HIV/AIDS awareness programs of respondents.

Table 3.15: Distribution of Respondents by Perception on HIV Testing

HIV test	MSM		TG		Total	
Confidential HIV testing facility available in the community	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	111	55.2	112	80.6	223	65.6
No	80	39.8	24	17.3	104	30.6
don't know	9	4.5	3	2.2	12	3.5
No response	1	0.5	0	0.0	1	0.3
Ever had an HIV test	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	108	53.7	118	84.9	226	66.5
No	90	44.8	21	15.1	111	32.6
don't know	3	1.5	0	0.0	3	0.9
Reasons for taking HIV test	**N=108**	**%**	**N=118**	**%**	**N=226**	**%**
Voluntarily	68	63.0	81	68.6	149	65.9
Required	40	37.0	37	31.4	77	34.1
Received HIV test result	**N=108**	**%**	**N=118**	**%**	**N=226**	**%**
Yes	105	97.2	118	100.0	223	98.7
No	2	1.9	0	0.0	2	0.9
No response	1	0.9	0	0.0	1	0.4
Received Counseling at the time of HIV test	**N=108**	**%**	**N=118**	**%**	**N=226**	**%**
Yes	103	95.4	112	94.9	215	95.1
No	5	4.6	6	5.1	11	4.9

Data shown in table 3.15 indicates that 65.6 percent of MSM/TG (55.2% MSM and 80.6% TG) had certain kind of perception and awareness on HIV testing facility available in the community and 3.5 percent of MSM/TG (4.5% MSM and 2.2% TG) told that they didn't know about the same. Similarly, 66.5 percent of MSM/TG had ever experienced an HIV test, 65.9 percent of MSM/TG had voluntarily done HIV test, 98.7 percent of MSM/TG had received HIV test result and 95.1 percent of MSM/TG had received counseling at the time of HIV test.

Table 3.16: Met/discussed/interacted with peer/Outreach educators/community mobilizer

Exposure to PE/OE/CM/CE	MSM		TG		Total	
Met/discussed/interacted with PE/OE/CM/CE	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	95	47.3	99	71.2	194	57.1

No	106	52.7	40	28.8	146	42.9
Number of meeting with PE/OE/CM/CEs	**N=95**	**%**	**N=99**	**%**	**N=194**	**%**
Once	9	9.5	11	11.1	20	10.3
2-3 times	28	29.5	21	21.2	49	25.3
4-6 times	28	29.5	30	30.3	58	29.9
7-12 times	16	16.8	12	12.1	28	14.4
More than 12 times	14	14.7	25	25.3	39	20.1

Table 3.16 shows that 57.1 percent of MSM/TG were found to have met/discussed/interacted with PE/OE/CM/CE and 42.9 percent MSM/TG had not met/discussed/interacted with PE/OE/CM/CE. Among interacted respondents, 29.9 percent of MSM/TG had 4-6 times interacted with PE/OE/CM/CE, 25.3 percent had 2-3 times, and only 10.3 percent had only once interacted with PE/OE/CM/CE.

Table 3.17: Outreach Center Visiting Practices

DIC Visiting practices	**MSM**		**TG**		**Total**	
Outreach center (DIC/IC/CC) visited in the last 12 months	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	60	29.9	72	51.8	132	38.8
No	141	70.1	67	48.2	208	61.2
Number of meeting with DIC/IC/CC	**N=60**	**%**	**N=72**	**%**	**N=132**	**%**
Once	3	5.0	3	4.2	6	4.5
2-3 times	22	36.7	20	27.8	42	31.8
4-6 times	21	35.0	22	30.6	43	32.6
7-12 times	8	13.3	15	20.8	23	17.4
More than 12 times	6	10.0	12	16.7	18	13.6

Table 3.17 shows the data of DIC visiting practices in outreach centers. 29.9 percent of MSM and 51.8 percent of TG were found to have visited DIC/IC/CC in the last 12 months. In total, 38.8 percent of MSM/TG visited DIC/IC/CC. Out of them, 4.5 percent of MSM/TG visited one time only, and 31.8 percent of MSM/TG visited 2-3 times and 32.6 percent of MSM/TG visited outreach centers (DIC/IC/CC) 4-6 times in the last 12 months.

Table 3.18: Distribution of Respondents by STI Clinic Visiting Practices

STI clinic Visiting practices	MSM		TG		Total	
Visited STI clinic in the past 12 months	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	38	18.9	23	16.5	61	17.9
No	163	81.1	116	83.5	279	82.1
Number of visits to STI Clinic	**N=38**	**%**	**N=23**	**%**	**N=61**	**%**
Once	15	39.5	8	34.8	23	37.7
2-3 times	20	52.6	11	47.8	31	50.8
4-6 times	3	7.9	2	8.7	5	8.2
7-12 times	0	0.0	1	4.3	1	1.6
More than 12 times	0	0.0	1	4.3	1	1.6

The data showed that only 17.9 percent of MSM/TG had visiting practice in STI clinic in the past 12 months. Where 37.7 of MSM/TG visited only once, 50.8 percent of MSM/TG visited 2-3 times and 8.2 percent of MSM/TG visited 4-6 times in the past 12 months.

Table 3.19: HTC Visiting Practices

HTC Visiting practices	MSM		TG		Total	
Visited HTC in the past 12 months	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	68	33.8	82	59.0	150	44.1
No	133	66.2	57	41.0	190	55.9
Number of visits to HTC	**N=68**	**%**	**N=82**	**%**	**N=150**	**%**
Once	28	41.2	12	14.6	40	26.7
2-3 times	33	48.5	52	63.4	85	56.7
4-6 times	7	10.3	15	18.3	22	14.7
7-12 times	0	0.0	2	2.4	2	1.3
More than 12 times	0	0.0	1	1.2	1	0.7

Table 3.19 shows the data on HTC visiting practices in the past 12 months. Only 44.1 percent of MSM/TG (33.8% MSM and 59% TG) visited HTC in the past 12 months. Where 26.7 percent of MSM/TG (41.2% MSM and 14.6% TS) visited one time only, 56.7 percent of MSM/TG (48.5% MSM and 63.4% TG) visited 2-3 times and only 14.7 percent of MSM/TG visited 4-6 times.

Table 3.20: Exposure to HIV/AIDS Awareness Programs

Exposure to PE/OE/CM/CE	MSM (%)	TG (%)	MSW (%)	Non-MSW (%)	15-24 years (%)	25 years and above (%)	Total (%)
Met/discussed/interacted with PE/OE/CM/CE	**N=201**	**N=139**	**N=196**	**N=144**	**N=154**	**N=186**	**N=340**
Yes	47.3	71.2	73.0	35.4	42.9	68.8	57.1
No	52.7	28.8	27.0	64.6	57.1	31.2	42.9
Outreach center (DIC/IC/CC) visited in the last 12 months	**N=201**	**N=139**	**N=196**	**N=144**	**N=154**	**N=186**	**N=340**
Yes	29.9	51.8	49.0	25.0	21.4	53.2	38.8
No	70.1	48.2	51.0	75.0	78.6	46.8	61.2
Visited STI clinic in the past 12 months	**N=201**	**N=139**	**N=196**	**N=144**	**N=154**	**N=186**	**N=340**
Yes	18.9	16.5	20.4	14.6	15.6	19.9	17.9
No	81.1	83.5	79.6	85.4	84.4	80.1	82.1
Visited HTC in the past 12 months	**N=201**	**N=139**	**N=196**	**N=144**	**N=154**	**N=186**	**N=340**
Yes	33.8	59.0	58.2	25.0	29.9	55.9	44.1
No	66.2	41.0	41.8	75.0	70.1	44.1	55.9
Visited all programs	**N=201**	**N=139**	**N=196**	**N=144**	**N=154**	**N=186**	**N=340**
Yes	9.0	12.2	13.8	5.6	5.2	14.5	10.3
No	91.0	87.8	86.2	94.4	94.8	85.5	89.7

Table 3.20 presents data on exposure to HIV/AIDS awareness program. In total, 57.1 percent (all group) were found having exposure with PE/OE/CM/CE. Similarly, 38.8 percent were found having outreach centers (DIC/IC/CC) and visited there in the last 12 months, 17.9 percent of them visited STI clinic in the past 12 months, 44.1 percent visited HTC in the past 12 months, and only 10.3 percent were found to have visited all programs.

3.9 Hormone use

This section presents data on distribution of sample regarding the use of hormone, and after effect of hormone use among the respondents.

Table 3.21: Distribution of Respondents by use of Hormone

Use of hormone	MSM		TG		Total	
Use of hormone	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	6	3.0	33	23.7	39	11.5
No	195	97.0	106	76.3	301	88.5

Who suggested to use hormone	N=6	%	N=33	%	N=39	%
Doctor	1	16.7	7	21.2	8	20.5
Friend	5	83.3	16	48.5	21	53.8
Self-decision	0	0.0	8	24.2	8	20.5
PO/OE	0	0.0	2	6.1	2	5.1
Effects of hormone use*	**N=6**	**%**	**N=33**	**%**	**N=39**	**%**
Increased Weight	1	16.7	15	45.5	16	41.0
Headache	5	83.3	21	63.6	26	66.7
Black spot on face	1	16.7	8	24.2	9	23.1
Fever	2	33.3	9	27.3	11	28.2
Pain on Breast	1	16.7	14	42.4	15	38.5
Increase Uric Acid	1	16.7	3	9.1	4	10.3
Gastric	0	0	4	12.1	4	10.3
Others	0	0	3	9.1	3	7.7

**Note The percentage add up to more than 100 because of multiple responses*

Data given in table 3.21 indicates the use of the hormone among the respondents. Only 11.5 percent of MSM/TG (3% MSM and 23.7% TG) were found to have used hormone. The MSM and TG told that they used hormone after they get suggestion from another person. Where 20.5 percent of MSM/TG were found getting suggestion to use hormone by doctor, 53.8 percent were suggested to use hormone by friend, 20.5 percent were found doing it as a self-decision, and only 5.1 percent were suggested to use hormone by PO/OE.

The major effects found after using hormone among MSM/TG were; 66.7 percent of MSM/TG had a headache, 41 percent had increased their weight, and 38.5 percent had pain on breast. Similarly, 28.2 percent of MSM/TG had fever, 23.1 percent had black spots on face, 10.3 percent had increase uric acid and gastric and 7.7 percent had other effects after hormone use.

3.10 Stigma and Discrimination

This section presents data on personal experience of violence and discrimination in the past (ever experienced any problems due to sexual orientation, getting hired or getting a job, at work, getting housing and getting service in a store or restaurant) among respondents.

Table 3.22: Personal Experience of Violence and Discrimination in the past

Ever experienced any kind of problems due to sexual orientation	MSM		TG		Total	
At school	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	32	15.9	52	37.4	84	24.7
No	169	84.1	87	62.6	256	75.3
Getting hired or getting a						

job						
Yes	12	6.0	25	18.0	37	10.9
No	189	94.0	114	82.0	303	89.1
At work						
Yes	23	11.4	57	41.0	80	23.5
No	178	88.6	82	59.0	260	76.5
Getting housing (renting or buying)						
Yes	5	2.5	27	19.4	32	9.4
No	196	97.5	112	80.6	308	90.6
Getting medical care						
Yes	7	3.5	42	30.2	49	14.4
No	194	96.5	97	69.8	291	85.6
Getting service in a store or restaurant						
Yes	22	10.9	62	44.6	84	24.7
No	179	89.1	77	55.4	256	75.3
On the street or in a public setting (Park)						
Yes	28	13.9	87	62.6	115	33.8
No	173	86.1	52	37.4	225	66.2
From the Police/other security personnel						
Yes	24	11.9	58	41.7	82	24.1
No	177	88.1	81	58.3	258	75.9
When you are treated unfairly because of your sexual orientation, what is your reaction	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Accept it/keep to self	94	46.8	69	49.6	163	47.9
Do something/keep to self	32	15.9	23	16.5	55	16.2
Do something/talk to others	75	37.3	47	33.8	122	35.9

Table 3.22 displays the data on personal experience of violence and discrimination. 24.7 percent of MSM/TG (15.9% MSM and 37.4% TG) told that they had ever experienced any kind of problems due to sexual orientation at school, 10.9 percent of MSM/TG (6% MSM and 18% TG) were found being hired or getting job, 23.5 percent of MSM/TG (11.4% MSM and 41% TG) were found to have been working, 9.4 percent of MSM/TG (2.5% MSM and 19.4% TG) were getting housing, 14.4 percent of MSM/TG (3.5% MSM and 30.2% TG) were getting medical care, 24.7 percent of MSM/TG (10.9% MSM and 44.6% TG)were getting service in a store or restaurant, 33.8 percent of MSM/TG (13.9% MSM and 62.6% TG) were found living in a street or in a public setting (Park) and 24.1 percent of MSM/TG

(11.9% MSM and 41.7% TG) were found facing violence and discrimination from the Police/other security personnel.

3.10 Prevalence

This section presents data on perception on HIV and STI Prevalence, Relationship between Socio-Demographic Characteristics and STI Prevalence and Self-categorization by sexual behavior of respondents.

Table 3.23: HIV and STI Prevalence

Infections	MSM (%)	TG (%)	MSW (%)	Non-MSW (%)	15-24 years (%)	25 years and above (%)	Total (%)
	N=201	N=139	N=196	N=144	N=154	N=186	N=340
HIV(unweighted)	6.0	11.5	10.2	5.6	1 (0.6)	27 (14.5)	28 (8.2)
HIV(RDS weighted)*	3.1 CI (1.4-6.7)	3.2 CI (1.5-6.7)	3.6 CI (1.8-7.1)	2.7 CI (1.1-6.4)	0.7 CI (0.1-3.6)	6.3 CI (3.6-10.6)	6.3 CI (3.6-10.6)
Active Syphilis	1.5	3.5	2.6	2.1	2 (1.3)	6 (3.2)	8 (2.4)
Syphilis history	0.5	2.9	2.0	0.7	--	5 (2.7)	5 (1.5)
Chlamydia	0.5	0.7	0.5	0.7	--	2(1.1)	2 (0.6)
Gonorrhea	--	2.2	1.5	--	--	3(1.6)	3 (0.9)
Chlamydia	0.5	0.7	0.5	0.7	--	2(1.1)	2 (0.6)
Gonorrhea	--	2.2	1.5	--	--	3(1.6)	3 (0.9)
Urethral _ CT (Chlamydia)	0.5	--	--	0.7	--	1(0.5)	1 (0.3)
Urethral _ NG (Gonorrhea)	--	1.4	1.0	--	--	2 (1.1)	2(0.6)
Urethral _ CT (Chlamydia)	--	0.7	0.5	--	--	1(0.5)	1(0.3)
Urethral _ NG (Gonorrhea)	--	0.7	0.5	--	--	1(0.5)	1(0.3)

**RDS II estimator; CI: confidence interval.*

Table 3.23 presents data regarding the HIV and STI prevalence. In total, 8.2 percent of HIV prevalence was observed in this round of survey among MSM/TG. Similarly, STI prevalence was only 5 percent where it was, 2.4 percent with active syphilis history 1.5 percent, Chlamydia 0.6 percent and with Gonorrhea it was just 0.9 percent.

Table 3.24: Relationship between Socio-Demographic Characteristics and STI Prevalence

Socio-demographic characteristics	HIV		STI	
	N	%	N	%
Currently Married				
Yes (n=127)	19	15.0	11	8.7
No (n=213)	9	7.1	6	2.8
Literacy				
Illiterate/literate/no schooling (n=68)	15	22.1	7	10.3
Formal Schooling (n=272)	13	4.8	10	3.7

Table 3.24 shows the relationship between Socio-Demographic Characteristics and HIV and STI Prevalence. Majority of Illiterate/literate/no schooling (22.1%) had HIV, recently married (15%) were found to have HIV prevalence noticed from this survey. Only 4.8 percent of HIV prevalence was found to have in formal schooling and 7.1 percent of HIV was noticed among unmarried. In case of STI prevalence, as like the HIV prevalence, 10.3 percent of the respondents were found among illiterate/no schooling and 8.7 percent were found among recently married.

Table 3.25: Relationship between Sexual Behavior and HIV and STI Prevalence

Sexual behavior	HIV		STI	
	N	%	N	%
Age at first sex				
10-16 (n=201)	19	9.5	15	7.5
17-20 (n=119)	6	5.0	1	0.8
21-30 (n=20)	3	15.0	1	5.0
Ever had sex with a male in exchange for money				
Yes (133)	14	10.5	10	7.5
No (n=207)	14	6.8	7	3.4
Vaginal, anal or oral sex with a women and anal/oral sex with male in the in the last year				
Any type of sex with female in past year (n=175)	11	6.3	9	5.1
Any type of sex with male partner in past year (n=112)	13	11.6	8	7.1

Bought sex from male in past month (n=70)	6	8.6	--	--
Bought sex from female in past month (n=32)	3	9.4	2	6.3

Table 3.25 presents the relationship between sexual behavior with HIV and STI prevalence. HIV prevalence among those who had attempt first sex in and between of 21-30 age groups was 15 percent and STI prevalence among those who had attempt first sex in and between the 10-16 years of age groups was 7.5 percent. Similarly, 10.5 percent HIV and 7.5 percent STI prevalence was observed among those who had sex with a male in exchange for money. Moreover, 11.6 percent HIV and 7.1 percent STI prevalence was recorded among those who had any type of sex with male partner in past year.

Table 3.26: Self-categorization on the basis of your sexual behavior

Preferred identity	**N=400**	**%**
Prefer to be identified as (on the basis of sexual orientation)		
Dohori	26	7.6
Transgender	119	35.0
Man/mard	144	42.4
Homosexual	8	2.4
Gay	21	6.2
Meta/meti	8	2.4
Others	14	4.1
Prefer to be identified as (on the basis of gender identification)		
Male	175	51.5
Third gender	137	40.3
Female	28	8.2

Table 3.26 shows the self- categorization on the basis of their sexual behavior data. Most of respondents (42.4%) were self-categorized as a man/mard and only 2.4 percent were self-categorized as a meta/meti and homosexual (on the basis of sexual orientation). Similarly, more than half (51.5%) of them were self-categorized as a male, 40.3 percent were third gender and only 8.2 percent were self-categorized as a female (on the basis of gender identification).

3.11 Psycho-social Health problem

This section presents data on perception regarding Suicide and feeling of hesitation of respondents.

Table 3.27: Perception on suicide

Subject to Violence/Discrimination	MSM		TG		Total	
Suicidal thought (ever)	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Yes	20	10.0	58	41.7	78	22.9
No	181	90.0	81	58.3	262	77.1
How often did you have any thoughts about ending your own life in last 12 months?	**N=20**	**%**	**N=58**	**%**	**N=78**	**%**
Many times	3	15.0	21	36.2	24	30.8
A few times	4	20.0	23	39.7	27	34.6
Once or twice	12	60.0	14	24.1	26	33.3
No response	1	5.0	0	0.0	1	1.3
Plan to commit suicide	**N=20**	**%**	**N=58**	**%**	**N=78**	**%**
Yes	9	45.0	38	65.5	47	60.3
No	11	55.0	20	34.5	31	39.7
Ever attempted suicide	**N=20**	%	**N=58**	%	**N=78**	%
Yes	6	30.0	26	44.8	32	41.0
No	14	70.0	32	55.2	46	59.0
Depression	**N=201**	**%**	**N=139**	**%**	**N=340**	**%**
Euthymic	81	40.3	31	22.3	112	32.9
Distress	63	31.3	45	32.4	108	31.8
Depression	57	28.4	63	45.3	120	35.3

22.9 percent of MSM/TG told that they had thought of committing suicide. 30.8 percent of MSM/TG thought about committing suicide many times in the last 12 months. 60.3 percent of MSM/TG had planned to commit suicide and 41 percent of MSM/TG had ever attempted suicide.

Chapter IV: Trend Analysis

4.1 HIV and STI Prevalence

This section describes the trend of different STI prevalence over the two rounds of the IBBS survey.

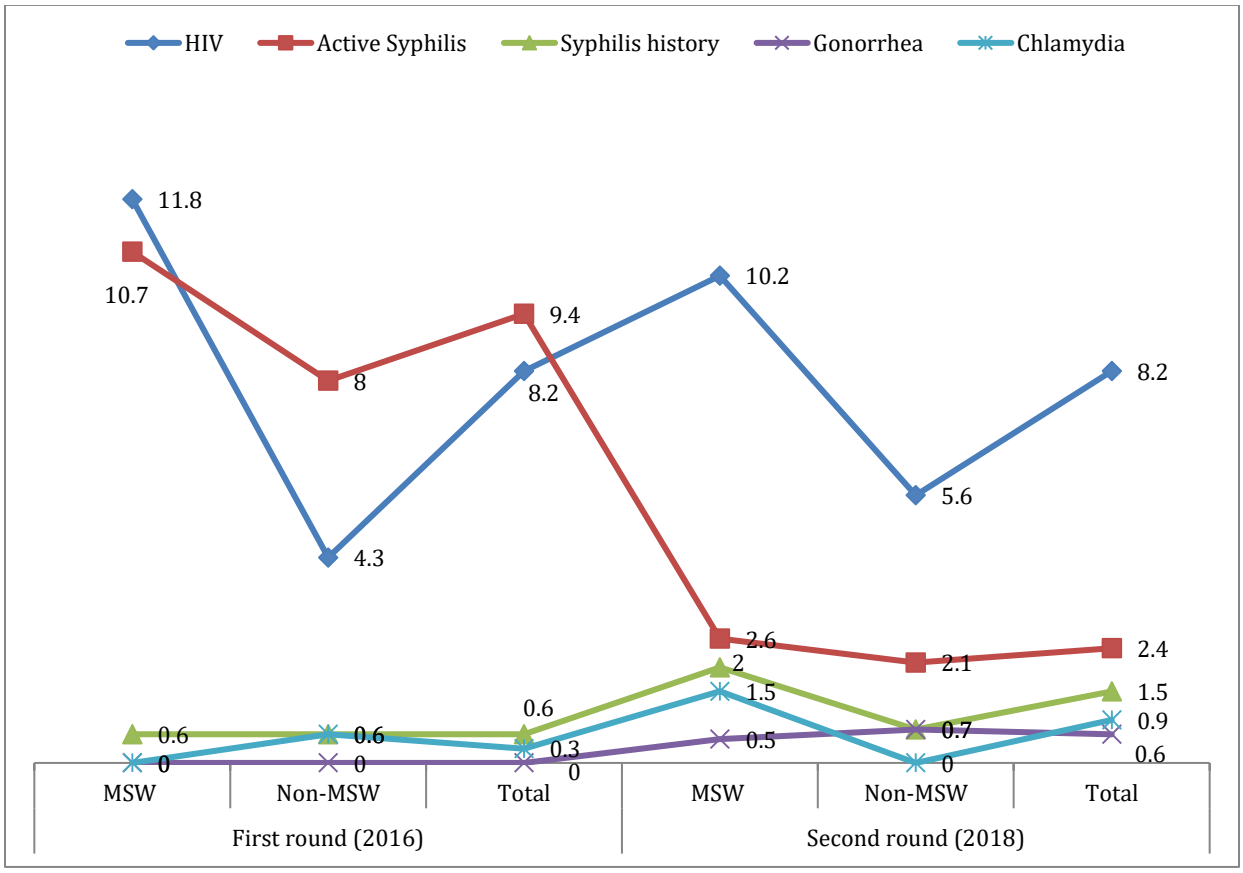


Figure 4.1: Trend of HIV and STI prevalence

The trend of HIV prevalence in total (MSW and Non-MSW) was found same (8.2%) in first round (2016) and second round (2018). Similarly, active syphilis prevalence rate was 9.4 percent among MSW/Non-MSW in first round, which declined to 2.1 percent in second round. However, 0.6 percent of syphilis history found in first round (0.6%) was slightly increased in second round (1.5%). In case of Chlamydia and Gonorrhea, 0.9 percent of MSM/TG were found having Chlamydia and 0.6 percent of MSM/TG had Gonorrhea in current round of survey which was 0.3 and 0.0 percent respectively in previous round of the survey.

4.2. Used condom in last anal Sex

This section describes the trend of use of condom in last anal sex and use of condom in last anal sex with male sex partner over the different two rounds of the IBBS survey.

4.2.1 Condom used in last anal Sex

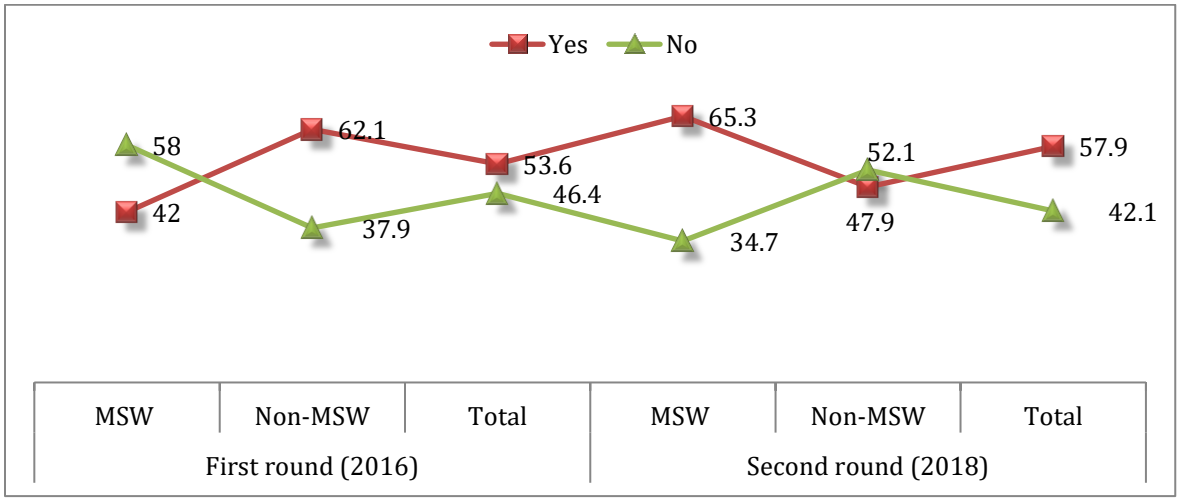


Figure 4.2.1: Trend of condom used in last anal Sex

Condom use among MSW in last anal sex showed slight increase after second round of IBBS (from 42% in 2016 to 65.3% in 2018. However, among Non-MSW there was slight decrease regarding condom use in the last anal sex in second round (47.9%) than first round (62.1%). In total, there was an increase in condom use in the last anal sex from 2016 to 2018 (53.6% MSW/Non-MSW and 57.9%).

4.2.2 Used condom in last anal Sex with male sex partner

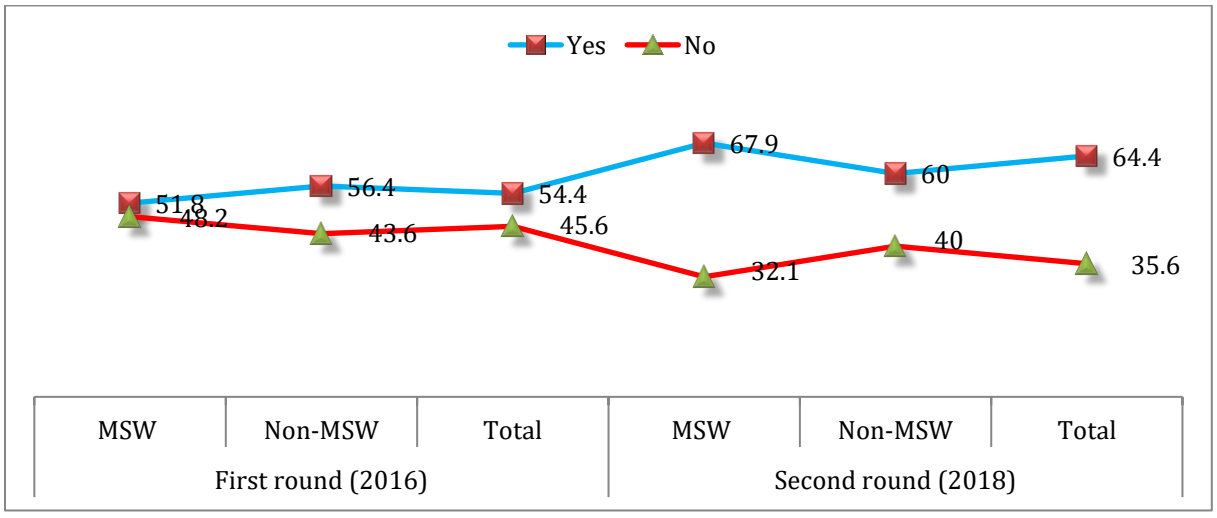


Figure 4.2.2: Trend of condom used in last anal Sex with male sex partner

The data shows the comparison of condom use in last anal sex with male sex partner in the two rounds. The trend of condom use in last anal sex with male sex partner by the MSW and Non-MSW indicates that the prevalence rate was in increasing trend over the past round of the IBBS.

4.3. Knowledge about preventing HIV/AIDS

This section describes the trend and knowledge about preventing HIV/ over the different two rounds of the IBBS survey.

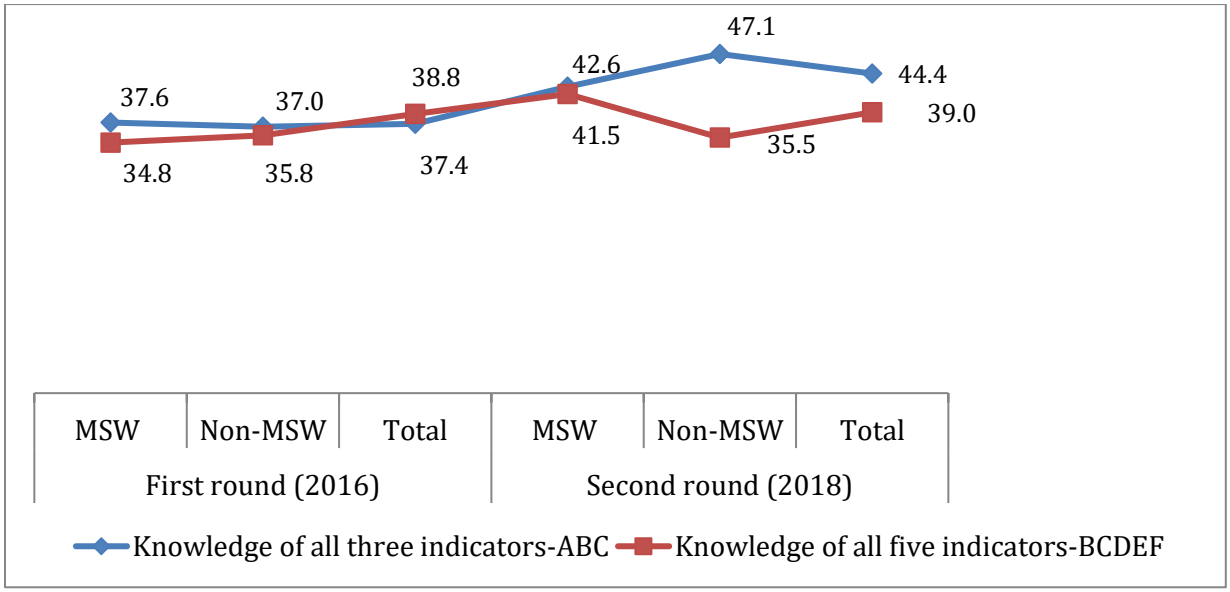


Figure 4.3: Trend of Knowledge about preventing HIV/AIDS

Data on knowledge of ABC among MSW, Non- MSW and in total indicates that it was all in increasing trend. In the first round (2016), MSW was 37.6 percent, Non-MSW was 37 percent, and the total was 37.4 percent which increased to 42.6 percent among MSW, 47.1 percent among Non-MSW and overall it was 44.4 percent in second round (2018).

Similarly, the knowledge of BCDEF on HIV/AIDS prevention trend shows that knowledge of MSW on BCDEF increased in second round (41.5%), which was reported only 34.8 percent in first round. The knowledge of Non-MSW on BCDEF was slightly decreased in second round than first round.

Moreover, the knowledge of both (MSW and Non-MSW) on BCDEF seemed slightly increased in second round (39%) than first round (38.8%).

4.4 Exposure to HIV/AIDS Awareness Programs

This section describes the trend of meting/discussion/interaction with PE/OE/CM/CE visiting trend at outreach centers (DIC/IC/CC), STI clinic, HTC and all exposure programs in the past 12 months.

4.4.1 Meeting/discussion/interaction with PE/OE/CM/CE

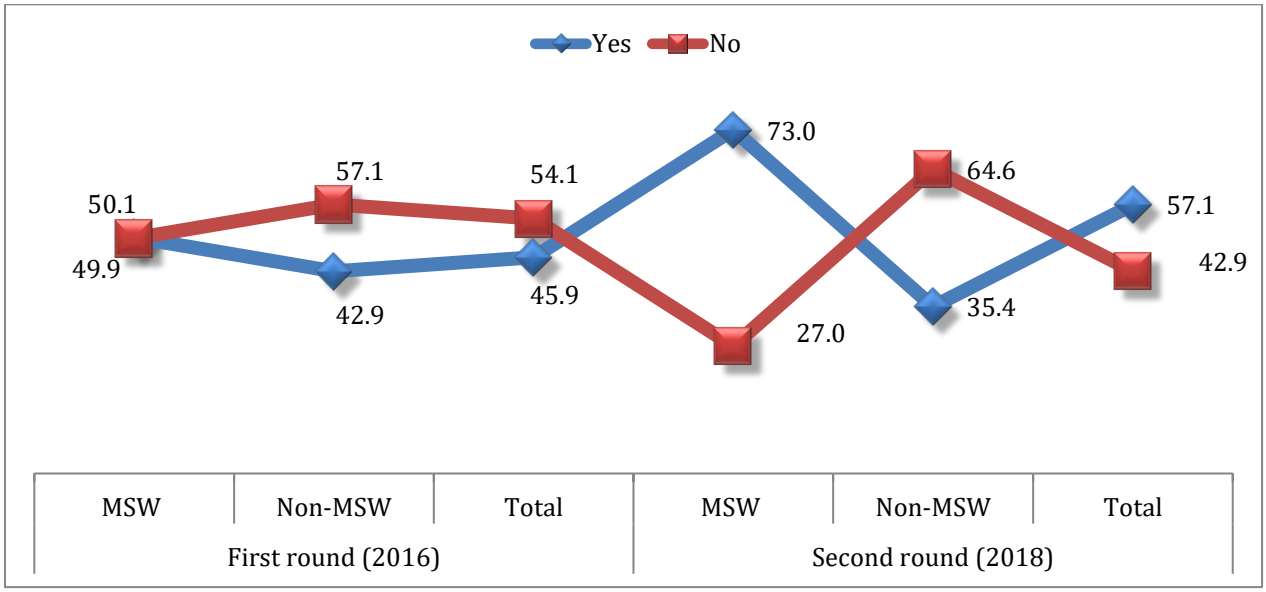


Figure 4.4.1: Trend of Meeting/discussion/interaction with PE/OE/CM/CE

Figure 4.4.1 shows the trend *of Meeting/discussion/interaction* with PE/OE/CM/CE. The finding shows that only 50.1 percent of MSW were found to have Met/discussed/interacted with PE/OE/CM/CE in first round of survey, and this rate of MSW was increased to 73 percent in second round.

Similarly, 42.9 percent of Non-MSW Met/discussed/interacted with PE/OE/CM/CE in first round however, in second round, only 35.4 percent Non- MSW Met/discussed/interacted with PE/OE/CM/CE.

In total, 45.9 percent of MSW/Non-MSW Met/discussed/interacted with PE/OE/CM/CE in first round of survey, which was increased slightly and reached 57.1 percent, in second round?

4.4.2 Outreach centre (DIC/IC/CC) visited in the last 12 months

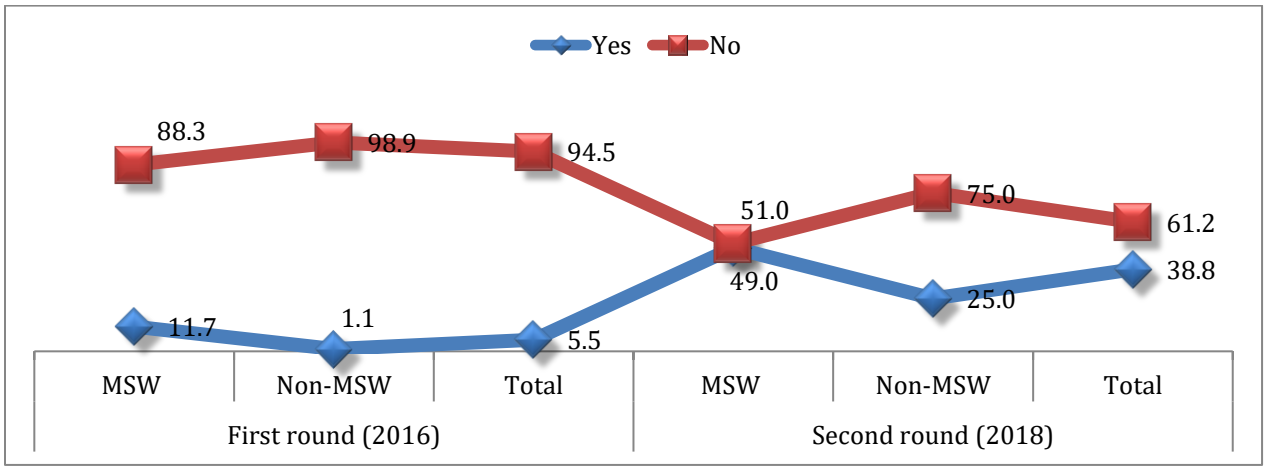


Figure 4.4.2: Trend of outreach center (DIC/IC/CC) visited in the last 12 months

Figure 4.4.2 shows the trend of outreach centers (DIC/IC/CC) visited in the last 12 months. the above bar diagram clearly signaled low MSW and Non- MSW awarded among outreach center (DIC/IC/CC) visited in the last 12 months which were less in first round of survey where this trend increased in second round. In first round (MSW/Non- MSW) only 5.5 percent were found to have exposure to HIV/AIDS awareness program in 2016 and it increased up to 38.8 percent in second round of the study in 2018.

4.4.3 Visited STI clinic in the past 12 months

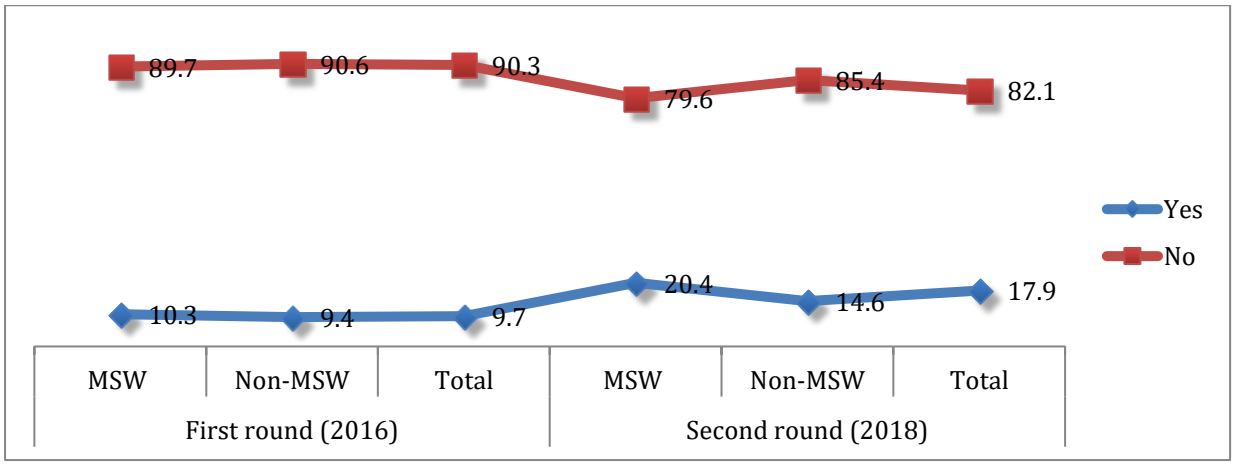


Figure 4.4.3: Trend of visited STI clinic in the past 12 months

The trend of visit to STI clinic in the past 12 months showed very low in all areas of both surveys. Comparatively among, MSW/ Non-MSW/ the total number was increased in the second round of IBBS survey.

4.4.4 Visited HTC in the past 12 months

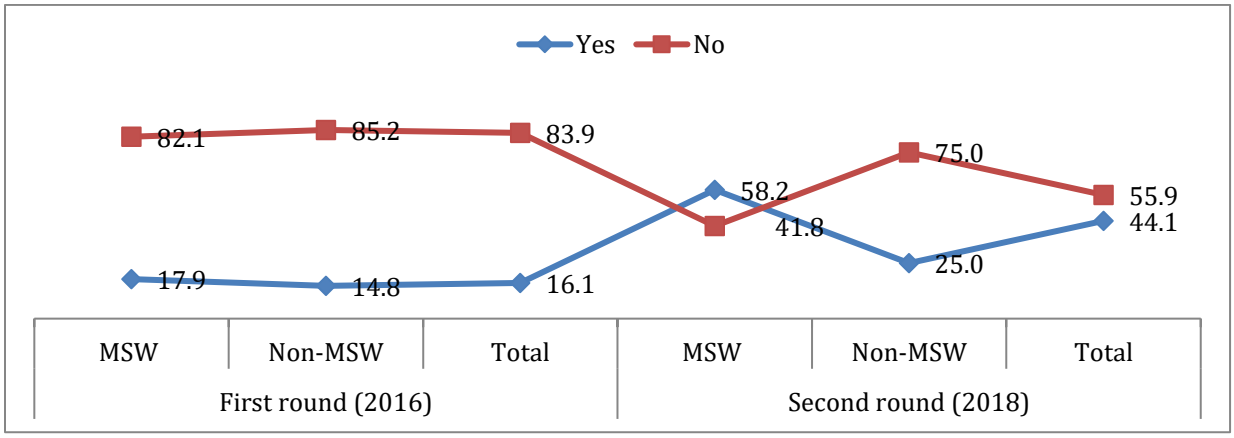


Figure 4.4.4: Trend of visited HTC in the past 12 months

The above figure shows the trend of visited HTC in the past 12 months after exposure to HIV/AIDS awareness program. Only 17.9 percent of MSW and 14.8 percent of Non- MSW were found to have visited HTC in the past 12 months after getting exposure to awareness in first round. Similarly, 58.2 percent of MSW and 25 percent of Non-MSW were found to have visited HTC in the past 12 months after getting exposure to awareness in second round. In total, (MSW/Non-MSW), the number was found to have increased in second round than that of first round survey.

4.4.5 Visited all programs

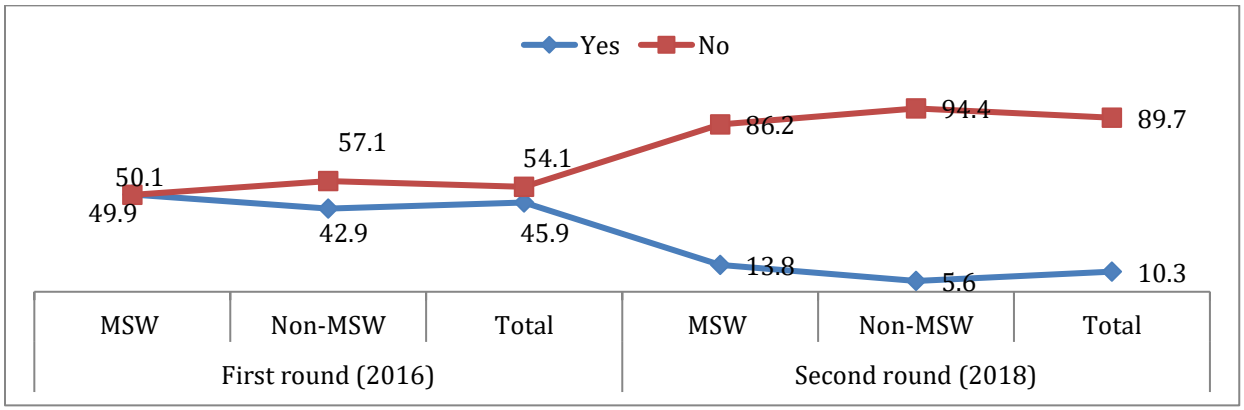


Figure 4.4.5: trend of visiting all programs

Figure 4.4.5 shows the trend of visiting all programs after getting exposure to HIV/AIDS awareness program. In total, 45.9 percent of MSW/Non-MSW was found to have visited all the program in first round (2016), whereby only 10.3 percent of MSW/Non-MSW were found to have visited all program in the second round (2018. In brief, both rounds of IBBS were analyzed to examine whether or not there was a decrease in visiting all programs after getting exposure of HIV/AIDS awareness program.

Chapter V: Summary of Findings and Recommendation

This chapter summarizes key finding of the IBBS surveys among MSM/TG in the Tarai Highway Districts. The summary covers sero-surveillance as well as behavioral surveillance data on HIV and STIs among the MSM/TG population. This chapter briefly highlights the key findings of the survey including the gaps and programmatic implications of the findings.

5.1 Summary of Findings

A total 340 respondents who were more than of 16 years old only participated in this round of IBBS survey. Among them, 201 were from MSM and 139 respondents from TG. Majority of the respondents (32.4%) were among the 20- 24 years of age group. Among them 37.4 percent of the respondents were married, 62.6 percent of the respondents were unmarried, 52.1 percent were from disadvantaged Janjati, 85.1 percent were following Hindu religion and 50.9 percent of them had formal education up to SLC and above.

Most of MSM (31.3%) were currently living in Kailali, and few MSM (2.5%) were currently living in Parsa district. However, high numbers of TG (26.6%) were found living in Rupandehi and only 2.2% TG were found currently living in Kanchanpur district.

The mean of age of their first sexual intercourse was found to be 15.8 years and range of age when they had first sexual intercourse was 10-30 years. Around two-third (74.7%) of the MSM/TG had their first sex with male/meti while only 25.3 percent MSM/TG had their first sex with a female partner. 39.1 percent of MSM/TG ever had sex with a male/meti in exchange for money. The age of their first sex experience with a male in exchange for money varied from 10-55 years.

Around one third 31.3 percent of MSM/TG among the respondents had no any non-paying female sex partners in the past month. In average, the respondents reported about only one non-paying male sex partners in the past month prior to the survey. Nearly half of the respondents (45.0 %) MSM/TG had 2-5 non-paying male sex partners in the past month. 68.3 percent of MSM/TG were found to have used condom in the last anal sex with regular male paying sex partner and 78 percent of MSM/TG were found to have used condom in the last anal sex with regular female paying sex partner.

More than half (58.5%) of the MSM/TG had ever consumed alcohol. Majority of the MSM (51.6%) and TG (46.5%) were found using alcohol once a week in their last sex. Of those who consumed alcohol, 46.1 percent of MSM and 26.8 percent of TG did not use alcohol in their last sex.

Comparatively, the knowledge of A, B and E was found lower than the knowledge of C, D and F among all groups of the respondents. In total, 44.4 percent were found to have knowledge of ABC while 39 percent had only knowledge of BCDEF.

Out of the total respondents 35.3 percent MSM and 41.7 percent TG reported that they had penis discharge, 25.4 percent MSM and 35.3 percent TG told that they had burning pain during urination, 51.7 percent MSM and 54.7 percent TG shared that they had genital ulcers/sores, 26.6 percent MSM and 25.2 percent TG had Swelling in groin area, 21.9 percent had Anal discharge and 34.8 percent MSM and 46 percent TG were found to have anal ulcer/sores as the symptoms of STIs. In total, 29.4 percent of MSM/TG told that they did not know any symptoms of STIs. Out of those experienced respondents, only 11.4 percent of MSM and 6.1 percent of TG were found to have received treatment from private doctor/ clinician. Similarly, 44.1 percent of MSM/TG were found to have visited HTC in the past 12 months. Among 11.5 percent of total MSM/TG were found using hormones, 53.8 percent of MSM/ TG told that they were using hormone as they got suggestion from friend to do so. The major after effect found among those who were using hormone in MSM/TG were headache being in the first place with total of 66.7 percent, increasing weight by 41 percent and pain on breast by 38.5 percent among the respondents.

One third (33.8%) of MSM/TG told that they experienced some kind of problems on a street or in a public setting (Park) due to sexual orientation, 24.7 percent said that they face the same at school, followed by 24.7 percent respondents who faced problems in getting service in a store or restaurant 24.1 percent of them said that they faced the same problem from the Police/other security personnel, 23.5 percent shared they had problem at work, 14.4 percent responded problem being faced in getting medical care,10.9 percent in getting job and 9.4 percent in getting housing.

In total, HIV prevalence (8.2%) was noticed comparatively higher than other STI. Similarly, STI prevalence among the respondents was seen to be at 3.8 percent, where active syphilis was just 2.4 percent and syphilis history had only 1.5 percent prevalence. In case of Chlamydia and Gonorrhea, 0.9 percent of MSM/TG were found to have Chlamydia and 0.6 percent of MSM/TG had Gonorrhea. Majority of respondents who were Illiterate/literate/no schooling (22.1%) were found to have had STI prevalence, followed by recently married (6.3 %) noticed from this survey. Only 4.8 percent were found to have had HIV prevalence in formal schooling and 2.8 percent had STI noticed in before getting married. 14.5 percent of the respondents were to have had HIV prevalence at the age of 25 years and above and 8.1 percent of STI prevalence was found in and between of 15-24 years of age .

5.2 Program Implications and Recommendations:

Following program implications and recommendations are made on the basis of the survey findings:

I. Most of the MSM and TG were found to have their sexual debuts at very early and young age (15 to 17 years). Therefore, reach out activities and programs of HIV prevention intervention should be focused to the adolescent groups. Targeted interventions for students, out of school adolescents and youth should be effectively implemented focusing on delayed sex, consistent and correct use of condom and partner reduction among others.

II. It is also necessary to spread the message of consistent and proper condom use with regular, nonpaying and paid sex partners while having sex, no matter whether it is oral or anal sex.

III. Information about available HIV and STI services including use of condoms should be disseminated widely through mass media and social networking sites like Facebook.

IV. Comprehensive knowledge of HIV prevention was found to have in increasing trend in the recent IBBS surveys. So, a survey should be conducted on why it is not in satisfactory level in association with HIV and STI infections.

V. More access to behavioral interventions (Peer education, DIC, HCT/STI clinics) should be done and available behavioral interventions should be improved.

VI. Special advocacy and awareness programs should be implemented in order to reduce the existing burden of depression, suicidality, stigma and discrimination faced by the MSM/TG populations.

References

NCASC (2009). Integrated Biological and Behavioral Survey (IBBS) among Men Having Sex with Men (MSM) and Transgender (TG) People in Kathmandu Valley, Nepal, Round 3, Teku, Kathmandu

NCASC (2011) Mapping & Size Estimation of Most-At-Risk-Population in Nepal–2011, Vol. 2 Injecting Drug Users, Teku, Kathmandu: HSCB/NCASC

NCASC (2012). Integrated Biological and Behavioral Survey (IBBS) among Men Having Sex with Men (MSM) and Transgender (TG) People in Kathmandu Valley, Nepal, Round 4, Teku, Kathmandu

NCASC (2015). Integrated Biological and Behavioral Survey (IBBS) among Men Having Sex with Men (MSM) and Transgender (TG) People in Kathmandu Valley, Nepal, Round 5, Teku, Kathmandu

NCASC (2016), National HIV Strategic Plan 2016 - 2021, Nepal HIVision, 2020 Ministry of Health, NCASC, Teku, Kathmandu

NCASC (2016). Integrated Biological and Behavioral Survey (IBBS) among Men Having Sex with Men (MSM) and Transgender (TG) People in Tarai Highway Districts, Nepal, Round I, Teku, Kathmandu

NCASC (2017). National HIV Testing and Treatment Guidelines, Ministry of Health, NCASC, Teku, Kathmandu

https://www.researchgate.net/publication/224006520_Risk_of_HIV_Infection_Among_Men_Having_Sex_With_Men_in_Kathmandu_Valley_Nepal [accessed Feb 11 2018].

Nepal health sector strategy 2015.2020. Kathmandu: Ministry of Health and Population; 2015.

Annexes:

Annex 1: Sample Size Formula

$$n = D\frac{\left[Z_{1-\propto}\sqrt{2\overline{P}(1-\overline{P})} + Z_{1-\beta}\sqrt{P_1(1-P_1)+P_2(1-P_2)}\right]^2}{(P_2-P_1)^2}$$

n = required minimum sample size

D = design effect (assumed in the following equations to be the default value of 2)

P1 = the estimated proportion at the time of the first survey.

P2 = the desired proportion at some future date.

(P2-P1) is the magnitude of change of change you want to be able to detect.

P = (P1 + P2)/2

Z1-α = the Z-score corresponding to the level of significance

Z1-β = the Z-score corresponding to the level of power

Annex 2: Indicators

Key Indicators (N=340)	Overall	<25 yrs	25+ yrs
Percentage of Male Sex Worker who are living with HIV (N=87)	6.9 (6/87)	0 (0/42)	13.3(6/45)
Percentage of Transgender (Sex Worker) who are living with HIV (N=109)	12.8 (14/109)	2.9 (1/34)	17.3 (13/75)
Percentage of Transgender who are living with HIV (N=139)	11.5 (16/139)	2.4 (1/42)	15.5 (15/57)
Percentage of Men Having Sex with Men (MSM) who are living with HIV (N=201)	6 (12/201)	0 (0/112)	13.5 (12/89)
Percentage of Male Sex Worker who know their current HIV status (N=51)	78.4 (40/51)	72.3 (13/18)	81.8 (27/33)
Percentage of Transgender (Sex Worker) people who know their current HIV status (N=95)	85.2 (81/95)	89.6 (26/29)	83.4 (55/66)
Percentage of Transgender people who know their current HIV status (N=118)	86.5 (102/118)	88.2 (30/34)	85.7 (72/84)
Percentage of Men Having Sex with Men (MSM) people who know their current HIV status (N=108)	76.8 (83/108)	78.2 (36/46)	75.8 (47/62)
Percentage of Male Sex Worker reporting using a condom with their most recent client (N=87)	65.5(57/87)	52.4 (22/42)	73.3 (35/45)
Percentage of Transgender (Sex Worker) reporting using a condom with their most recent client (N=109)	65.1 (71/109)	52.9 (18/34)	70.7 (53/75)
Percentage of Transgender reporting using a condom with their most recent client (N=139)	58.3 (81/139)	47.6 (20/42)	62.9 (61/97)
Percentage of Men Having Sex with Men (MSM) reporting using a condom with their most recent client (N=201)	57.7 (116/201)	49.1 (55/112)	68.5 (61/89)
Percentage of Male Sex Workers reporting having received a combined set of HIV prevention interventions (N=87)	75.9 (66/87)	61.9 (26/42)	88.9 (40/45)
Percentage of Transgender (sex workers) reporting having received a combined set of HIV prevention interventions (N=109)	86.2 (94/109)	82.4 (28/34)	88 (66/75)
Percentage of Transgender reporting having received a combined set of HIV prevention interventions (N=139)	81.3 (113/139)	76.2 (32/42)	83.5 (81/97)
Percentage of men who have sex with men reporting having received a combined set of HIV prevention interventions (N=201)	55.7 (112/201)	44.6 (50/112)	69.7 (62/89)
Percentage of Male Sex Workers with active syphilis (N=87)	1.2 (1/87)	2.4 (1/42)	0 (0/45)
Percentage of Transgender with active syphilis (N=109)	3.4 (4/109)	0 (0/34)	5.3 (4/75)

Annex 3: Survey Questionnaire

2018 Integrated Biological and Behavioral Surveillance Survey (IBBS) among Men who have Sex with Men/Transgender people in Tarai Highway Districts

Would you be willing to participate in this survey?

1. Yes 2. No

Operational definition of respondent:

Inclusion definition for MSM and TG*: **'Biological males who have engaged in sexual relationship (oral and/or anal sex) with another biological male at least once within the past 12 months prior to the date of survey**'*

Male Sex Workers (MSWs)/ TG who involved in sex work: "Regardless of their identity or label if male has had sold anal and/or oral sex to another male in exchange for money or any other commodities in the 12 months preceding the survey".

Non –MSWs/ TG: "Regardless of their identity or label if male has had anal and/or oral sex with another male in the 12 months preceding the survey and not sold sex to another male in the previous 12 months".

MSM and TG under the age of 16 will not be included in this survey.

Code Respondent: (circle)

Seed**:** 1. Yes 2. No

IDENTIFICATION NUMBER OF RESPONDENT: ----------(Write "0" for seed)

Coupon number of Respondent ---------- (**If respondent is seed write "0"**)
Coupon number given: 1)…….. 2)…….. 3) ……..
Coupon number of MSM or TG who referred this respondent ----------**(Write "0" for seed)**
Name of Interviewer: _____
Date of Interview: _____/ _____ / 2074
Time of Interview: _ _: _ _

001. Has someone interviewed you from …….. with a questionnaire in last few weeks?

1. Yes 2. No **(Continue Interview**)

↓

When?
_____Days ago **(End Interview)**

1.0 PERSONAL INFORMATION

Q. N.	Questions	Coding Categories	Skip to
101	How old are you?	Age ..... ☐☐ ***(Write the completed years)***	
102	What is your caste?	Ethnicity/Caste_____ (Specify)	
103	Do you follow any religion?	Yes ..... 1 No ..... 2 →	104
103.1	What is your religion? **(Only one response)**	Hindu..... 1 Buddhist..... 2 Muslim ..... 3 Christian ..... 4 Others (Specify) _____ .....96 No Response.....99	
104	What is your educational status? (Circle '0' if illiterate, '19' for the literate without attending the school, and write exact number of the passed grade)	Illiterate ..... 0 Literate.....19 Grade..... ☐☐ ***(Write the grade completed)***	
105	What kind of person do you get attracted to? **(Multiple answer possible)**	Dohori..... 1 Ta..... 2 Pinky ta ..... 3 Man/mard..... 4 Homosexual..... 5 Gay ..... 6 Meta/meti ..... 7 Mougiya/Mouga……..…8 Kothi/Panthi……..9 Nachaniya……..10 He……..11 Pinky meta.....12 Woman.....13 *Hijara* .....14 Transgender……..…15 Others (Specify) _____ 96 Don't remember/know .....98 No Response 99	
106	How would you identify yourself on the basis of your sexual orientation/ behavior? **(Only one answer)**	Dohori..... 1 Ta..... 2 Pinky ta ..... 3 Man/mard..... 4 Homosexual..... 5 Gay ..... 6 Meta/meti ..... 7 Mougiya/Mouga……..…8 Kothi/Panthi……..9 Nachaniya……..10	

Q. N.	Questions	Coding Categories	Skip to
		He……11 Pinky meta……12 Woman……13 *Hijara* ……14 Transgender……15 Others (Specify) _____ 96 Don't remember/know……98 No Response ……99	
106.1	How do you identify yourself on the basis of gender? **(Only one answer)**	*Tesro Lingi*…… 1 Man …… 2 Woman …… 3 Don't Know……98 No Response……99	
106.2	Which of the following best describes your current living situation? (Select only one option)	Homeless on the street……1 Living in own home……2 Living in a residential hotel……3 Rented apartment/room……4 Other (specify)_____……96	→ 107
106.3	How often your landlord or male partner forced you to vacate the rented room or apartment in the last 3 years?	Never……1 0nce/twice……2 Three to five times……3 More than five times……4 Do not remember ……98	
107	Are you currently married?	Yes…… 1 No …… 2 No response……99	} 107.2
107.1	Who is your married sex partner? **(Multiple answer possible)**	Male/Meti…… 1 Female …… 2 Others (Specify) _____ ……96	
107.2	Does your family force you for marriage with female?	Yes……1 No……2	
108	Are you currently living with a regular sexual partner?	Yes…… 1 No …… 2 No response……99	} 110
109	Is your regular sexual partner who you live with male or female? (If female, confirm if she is wife or other female partner)	Male…… 1 Wife…… 2 Other female …… 3 No response……99	
110	What is your main profession? **(Only one response)**	Student…… 1 Driver…… 2 Police…… 3 Military…… 4 Other civil servant …… 5 Businessman…… 6 Private company staff …… 7 Unemployed…… 8	

Q. N.	Questions	Coding Categories	Skip to
		Laborer/wage labor..... 9 Sex worker.....10 Others (Specify) _____ .....96 Don't know .....98 No response.....99	
111	What was your total income in last month? (Write total income from one or more than one professions)	NRs _____☐☐☐☐ No response 99	
112	Does your family force you to live outside of home because of your sexual orientation/ behaviours?	Yes.....1 No.....2 No response.....99	
113	Is there at least someone in your immediate family that you can talk openly with about your homosexual/bisexual behaviour?	Yes.....1 No.....2 No response.....99	

2.0 INFORMATION ON SEXUAL BEHAVIOR

Q. N.	Questions	Coding Categories	Skip to
201	At what age did you first have sexual intercourse? (I mean any type of anal and or vaginal sex even if you were forced to have it)	Age in years..... ☐☐ (Completed years) Never had oral, vaginal or anal sex..... 1 Don't know/Can't recall .....98 No response 99	→ **Stop interview**
202	Was your first sexual partner male or female?	Male/meti..... 1 Female ..... 2 Don't know .....98 No response.....99	
202.1	Was your first sex forced or consensual sexual intercourse?	Coerced/forced.....1 Consensus.....2 Don't know .....98 No response.....99	
203	Have you had vaginal, anal or oral sex with a female in the last 12 months?	Yes..... 1 No ..... 2 Don't remember .....98 No response.....99	
204	Have you ever had sex with a male/meti in exchange for money or any other commodities?	Yes..... 1 No ..... 2 Don't remember .....98 No response.....99	→ 207
205	In the last 12 months have had sex with a male/meti for money?	Yes..... 1 No ..... 2 Don't remember .....98 No response.....99	
206	How old were you when you had sex with a male/meti for money for the first time?	Year's old ..... ☐☐	

Q. N.	Questions	Coding Categories	Skip to
	(In Completed years)	Don't remember .....98 No response 99	
207	Have you had anal (receptive, insertive or both) sexual intercourse in the last six months with a male partner?	Yes..... 1 No ..... 2 Don't remember .....98 No response.....99	
208	Did you or your partner (any) use a condom the last time you had anal sex?	Yes..... 1 No ..... 2 Don't remember .....98 No response.....99	
209	How many times did you cross Nepal-India border for anal or oral sex in last 12 months?	Always ..... 1 Most of the time ..... 2 Sometimes ..... 3 Never..... 4 Don't remember .....98 No response.....99	

3.0 USE OF CONDOM WITH SEX PARTNERS

<u>CONDOM USE WITH NON-PAYING MALE SEX PARTNER</u>

Non-paying male sex partner: Male partners with whom you may have had sex without paying any cash or without exchanging gifts. When answering these questions please think about your "meti" or "ta" as well as other male partners.

Q. N.	Questions	Coding Categories	Skip to
301	In the past one month, how many male sex partners have you had sex with where no payment was involved?	Number ..... ☐☐ No one..... 0 Don't remember.....98 No response 99	305
302	With how many of those partners did you have anal sex?	Number ..... ☐☐ No one..... 0 Don't remember.....98 No response 99	304
303	The last time you had anal sex with a non-paying male sex partner, did you use a condom?	Yes..... 1 No ..... 2 Don't remember .....98 No response.....99	
304	Where did you meet your last non-paying male sex partner?	Park..... 1 Discothèque..... 2 Restaurant ..... 3 Dance Restaurant..... 4 Massage Parlor..... 5 Street..... 5 Pub/Café..... 7 Temple..... 8 Bus Station..... 9	

Q. N.	Questions	Coding Categories	Skip to
		Public Toilets .....10 Cinema Hall .....11 Near Army barracks.....12 Internet (different website) .....13 Sauna/Steam Bath.....14 Swimming Pools/sports center.....15 Home .....16 *Bhatti Pasal* .....17 Forest .....18 Saloon .....19 Shopping center .....20 Others (Specify) _____ .....96 Don't remember.....98	

CONDOM USE WITH NON-PAYING FEMALE SEX PARTNER

Non-paying female sex partner: Female partners with whom you may have had sex without paying in cash or without exchanging any gifts.

Q. N.	Questions	Coding Categories	Skip to
305	In the past one month, how many female sex partners have you had vaginal, anal or oral sex with where no payment was involved? (Including your wife if married as well as other women)	Number ..... ☐☐ No one..... 0 Don't remember.....98 No response 99	307
306	The last time you had vaginal, anal or oral sex with a non-paying female sex partner, did you use a condom?	Yes.....1 No .....2 Don't remember ..... 98 No response..... 99	

CONDOM USE WITH ONE-TIME MALE CLIENT

One-time male clients: Men who paid or gave other commodities to you for sex as client and you have never had sex with him before

Q. N.	Questions	Coding Categories	Skip to
307	In the past one month, how many one-time male clients have you had sex with you? **(Include oral, anal sex partner)**	Number ..... ☐☐ No one..... 0 Don't remember.....98 No response 99	311
308	How many one-time male clients did you have anal sex with in the last month?	Number ..... ☐☐ No-one .....0 Don't remember..... 98 No response..... 99	310
309	The last time you had anal sex with a one-time male	Yes.....1	

Q. N.	Questions	Coding Categories	Skip to
	client, did he use a condom?	No ..... 2 Don't remember ..... 98 No response 99	
310	How many one-time male clients did you have oral sex with in the last month?	Number ..... ☐☐ No-one ..... 0 Don't remember ..... 98 No response 99	

CONDOM USE WITH REGULAR MALE CLIENTS

Regular male clients: Men who paid or gave other commodities to you for sex as client and you have had sex with him more than once

Q. N.	Questions	Coding Categories	Skip to
311	In the past one month, how many regular male/meti clients have you had sex with you?	Number ..... ☐☐ No one ..... 0 Don't remember ..... 98 No response 99	317
312	How many regular male/meti clients did you have anal sex with in the last month?	Number ..... ☐☐ No one ..... 0 Don't remember ..... 98 No response 99	314
313	The last time you had anal sex with a regular male/meti client, did you use a condom?	Yes ..... 1 No ..... 2 Don't remember ..... 98 No response 99	
314	How many regular male/meti clients did you have oral sex with in the last month?	Number ..... ☐☐ No-one ..... 0 Don't remember ..... 98 No response 99	
315	Where did you meet your last male/meti client? (**Regular or one time client**)	Park ..... 1 Discotheque ..... 2 Restaurant ..... 3 Dance Restaurant ..... 4 Massage Parlor ..... 5 Street ..... 5 Pub/Café ..... 7 Temple ..... 8 Bus Station ..... 9 Public Toilets ..... 10 Cinema Hall ..... 11 Near Army barracks ..... 12 Internet /café ..... 13 Sauna/Steam Bath ..... 14 Swimming Pools 15	

Q. N.	Questions	Coding Categories	Skip to
		Home ..... 16 Bhatti Pasal ..... 17 Forest ..... 18 Saloon ..... 19 Shopping center ..... 20 Others (Specify) _____ .... 96 Don't remember ..... 98 No response 99	
316	What are the most common occupations among your clients? **(Do not read options. Probe for up to three)**	Student ..... 1 Police/Military ..... 2 Civil servant ..... 3 Businessman ..... 4 Laborer ..... 5 Unemployed ..... 6 Driver ..... 7 Private office staff ..... 8 Others (Specify) _____ ..... 96 Don't know ..... 98 No response 99	

CONDOM USE WITH PAID MALE/ METI SEX PARTNER

Paying male sex partner: Men to whom you have paid in cash or gave some commodities for sex

Q. N.	Questions	Coding Categories	Skip to
317	In the past one month, how many different men/meti did you give money or any other commodities so that they would have sex with you?	Number ..... ☐☐ No one ..... 0 Don't remember ..... 98 No response 99	320
318	How many male/meti partners did you pay to have anal sex with in the last month?	Number ..... ☐☐ Not paid ..... 0 Don't remember ..... 98 No response 99	320
319	The last time you had anal sex with a paid male sex partner, did you use a condom?	Yes ..... 1 No ..... 2 Don't remember ..... 98 No response 99	
320	How often do you have sex with regular and casual clients without condoms to make more money within 6 months?	Always ..... 1 Most of the time ..... 2 Sometimes ..... 3 Never ..... 4 Don't know ..... 98 No response 99	

CONDOM USE WITH PAID FEMALE SEX PARTNER (FEMALE SEX WORKERS)

Paid female sex partner: Women to whom you have paid in cash or gave some gifts for sex

Q. N.	Questions	Coding Categories	Skip to

Q. N.	Questions	Coding Categories	Skip to
321	In the past one-month, how many female sex workers did you pay or give other commodities to for sexual contact?	Number ..... ☐☐ No one..... 0 Don't remember..... 98 No response 99	323
322	The last time you had vaginal or anal sex with a paid female sex partner, did you use a condom?	Yes..... 1 No ..... 2 Don't remember ..... 98 No response..... 99	
323	With whom did you have the last sexual intercourse (anal or vaginal)?	Non-paying male partner ..... 1 Non paying female partner..... 2 Male client..... 3 Female client..... 4 Paid male sex worker..... 5 Paid female sex worker (FSW)... 6 Don't Know..... 98 No response 99	
324	Did you use a condom in the last sexual intercourse (anal or vaginal)?	Yes..... 1 No ..... 2 Don't remember/don't know... 98 No response..... 99	
325	Who was your last male anal sexual partner? **(Check the answer given in Q 336)**	Non-paying male partner ..... 1 Male client..... 2 Paid male sex worker..... 3 No anal sexual intercourse in Last 12 months ..... 4 Don't Know..... 98 No response 99	→ 328
326	Did you use a condom in the last anal sexual intercourse with male sex partner?	Yes..... 1 No ..... 2 Don't remember/don't know... 98 No response..... 99	
327	How many different sex partners you had in the last six months (count all types of partners: paid, not-paid, regular, one time among all male, female and *tesro lingis* also)	Number ..... ☐☐☐ No-one ..... 0 Don't remember..... 98 No response..... 99	
328	If your sexual partner (regular or casual) refuses to use a condom, what do you usually do?	Refuses to have sex with the client……..1 Forces the client to use a condom……..2 Explains the advantages of condoms……..3 Still has sex with the client……..4 Only takes medication/treatment after sex……..5 Other (Specify) ..... 96 Don't know.....98	

4.0 SEXUAL PRACTICES AND VIOLENCE

Q. N.	Questions	Coding Categories	Skip to
401	In the past 12 months, were you ever beaten because of your sexual behavior?	Yes ..... 1 No ..... 2 Don't remember/don't know... 98 No response..... 99	403
402	Who was/were the people who beat you? **(Multiple answers possible don't read possible answer)**	Police..... 1 Military..... 2 Client..... 3 Regular Partner..... 4 Sexual Partner ..... 5 Hooligans group..... 6 Others (Specify)_____ ..... 96 Don't remember ..... 98 No response..... 99	
403	In the past 12 months, were you forced to have sex with someone against your wishes?	Yes ..... 1 No ..... 2 Don't remember/don't know... 98 No response..... 99	→ 405
404	Who were these people who forced you to have sex against your will? **(Multiple answer possible)**	Police ..... 1 Military ..... 2 Client..... 3 Regular Partner ..... 4 Sexual Partner..... 5 Hooligans group ..... 6 Others (Specify)_____ ..... 96 Don't remember..... 98 No response..... 99	
405	In the past 12 months, have you been cheated /threatened because of your sexual behavior?	Yes..... 1 No..... 2 Don't remember..... 98 No response..... 99	
406	Have you ever experienced discrimination, been prevented from doing something, or been hassled or made to feel inferior in any of the following situations because of your sexual orientation?		

Response/ frequency	At school	Getting hired or getting a job	At work	Getting housing (renting or buying)	Getting medical care	Getting service in a store or restaurant	On a street or in a public setting (park)	From the police/ other security personnel
Response	Yes= 1 No= 2	Yes= 1 No= 2	Yes= 1 No= 2	Yes= 1 No= 2	Yes= 1 No= 2	Yes= 1 No= 2	Yes= 1 No= 2	Yes= 1 No= 2
If yes, How many times did this happen in last 12 months?	…..	……..	……..	……..	……..	……..	……..	……..
407	When you are treated unfairly because of your sexual orientation, what is your reaction?							

	Accept it/keep to self= 1 Do something/keep to self= 2 Do something/talk to others= 3

407.1 Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.				
SCORING: zero for answers in the first column, 1 for answers in the second column, 2 for answers in the third column, 3 for answers in the fourth column.	**Rarely on none of the time (less than 1 day)**	**Some or a little of the time (1-2 days)**	**Occasionally or moderate of the time (3-4 days)**	**Most or all the time (5-7 days)**
I1. I was bothered by things that usually don't bother me				
I2. I did not feel like eating; my appetite was poor.				
I3. I felt that I could not shake off the blues even with help from my family or friends.				
I4. I felt I was just as good as other people				
I5. I had trouble keeping my mind on what I was doing.				
I6. I felt depressed				
I7. I felt that everything I did was an effort.				
I8. I felt hopeful about the future.				
I9. I thought my life had been a failure.				
I10. I felt fearful.				
I11. My sleep was restless				
I12. I was happy				
I13. I talked less than usual				
I14. I felt lonely.				
I15. People were unfriendly				
I16. I enjoyed life.				
I17. I had crying spells.				
I18. I felt sad.				
I19. I felt that people dislike me.				
I20. I could not get "going."				

Q. N.	Questions	Coding Categories	Skip to
408	Did you ever feel so low you thought a lot about committing suicide?	Yes ..... 1 No ..... 2 No response 99	→ 501

409	How often did you have any thoughts about ending your own life in last 12 months?	Many times……..1 A few times……..2 Once or twice……..3 No response……..99	
410	Have you ever made a plan to commit suicide?	Yes ..... 1 No..... 2 No response.. 99	
411	Did you ever attempt suicide?	Yes ..... 1 No ..... 2 No response..... 99	

5.0 ACCESSIBILITY OF CONDOM AND LUBRICANT

Q. N.	Questions	Coding Categories	Skip to
501	Can you obtain a condom every time you need it?	Yes..... 1 Not aware of condom……..2 No ..... 3 Don't need one ..... 4 Don't remember.....98 No response 99	→ 503
502	Why can't you get a condom every time you need it? **(Multiple answers. DO NOT READ the possible answers)**	Cost too much ..... 1 Shop/pharmacy too far away..... 2 Shops/pharmacies closed ..... 3 Shy to buy condom..... 4 Don't know where to obtain..... 5 Don't want to carry condom..... 6 Other (Specify) _____.....96 Don't know .....98 No response.....99	
503	Have you ever used lubricant when having anal sex? **(Lubricants: Something to make your or your partner's penis slippery so it is easier to insert without pain)**	Yes..... 1 No..... 2 Don't remember.....98 No response 99	→ 505
504	What types of lubricant did you used during last anal sex?	Saliva..... 1 Oil..... 2 Water based lube..... 3 Antiseptic/antibiotic cream..... 4 Ghee..... 5 Cream/lotion..... 6 Other (Specify) _____ .....96 Don't know .....98 No response.....99	
505	In the last month, was there such instance when your condom broke while you were using it?	Yes..... 1 No..... 2 Condom never used/didn't use last month..... 3	

		Don't know.....98 No response.....99	

6.0 USE OF ALCOHOL AND DRUGS

Q. N.	Questions	Coding Categories	Skip to
601	Have you ever had any drinks containing alcohol?	Yes.....1 No.....2 No response.....99	→ 604
602	During the last 4 weeks how often have you had drinks containing alcohol?	Every day.....1 3-4 days a week.....2 At least once a week.....3 Did not drink alcohol in the last week.....4 Don't know / remember.....98 No response.....99	
603	Last time you had sex, how much alcohol did you drink? **(Only one response)**	A lot (more than 6 small beers or 3 glass of local raw whisky).....1 Some (3-4 small beers or 1-3 glasses of wine).....2 A little (1-3 small beers or 1 glass of wine).....3 No alcohol.....4 Don't know / remember.....98 No response.....99	
604	Some people have tried different types of drugs. Which of the following have you ever tried in the last 12 months? **READ OUT ANSWERS**	**Yes** **No** Ganja.....1 2 Chares.....1 2 Tablets.....1 2 Glue/dendrite.....1 2 Heroine.....1 2 Other (Specify)_____.....96 No drugs used..... 0 Don't know ..... 98 No response 99	
605	Some people try injecting drugs using a syringe. Have you injected such drugs in the last 12 months **DO NOT COUNT DRUGS INJECTED FOR MEDICAL PURPOSES OR TREATMENT OF AN ILLNESS**	Yes.....1 No.....2 Don't remember/don't know...98 No response.....99	

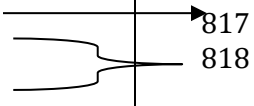
7.0 SEXUALLY TRANSMITTED INFECTIONS (STI)

Q.N.	Questions	Coding Categories	Skip to

Q.N.	Questions	Coding Categories	Skip to
701	Could you tell me about any symptoms of STIs in men? **DO NOT READ OUT** **(Multiple responses possible)**	Penis discharge.....1 Burning pain during urination...2 Genital ulcers/sores.....3 Swellings in groin area .....4 Anal discharge .....5 Anal ulcer/sores.....6 Other (Specify)_____.....96 Don't know .....98 No response.....99	
702	Have you had genital ulcer / discharge / sore (penis and or anal) during the past 12 months	Yes.....1 No .....2 Don't know .....98 No response.....99	801
703	What was the **first** thing you did when you had those symptoms? **DO NOT READ OUT**	Sought treatment from hospital 1 Sought treatment from chemist.2 Sought treatment from private doctor/ clinician.....3 Sought treatment from BDS clinic .....4 Received treatment from friend.....5 Took medicine available at Home.....6 Nothing.....7 Other (Specify) _____.....96 Don't remember/know .....98 No response.....99	

8.0 HIV/AIDS KNOWLEDGE AND ATTITUDES

Q. N.	Questions	Coding Categories	Skip to
801	Have you ever heard of HIV or AIDS?	Yes.....1 No .....2 → No response .....99 Don't know 98	818
802	Do you know anyone who is infected with HIV or has died of AIDS?	Yes.....1 No .....2 → No response 99	804
803	Do you have a close relative or close friend who is infected with HIV or has died of AIDS?	Yes, a close relative .....1 Yes, a close friend .....2 No .....3 No response 99	
804	Can people reduce their risk of HIV by using a condom correctly every time they have sex?	Yes.....1 No .....2 Don't know .....98 No response 99	

Q. N.	Questions	Coding Categories	Skip to
805	Can people reduce their risk of HIV by using a condom correctly every time they have anal sex?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
806	Can a person get the HIV virus from mosquito bites?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
807	Can people protect themselves from HIV by having one uninfected faithful sex partner?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
808	Can people protect themselves from HIV by abstaining from sexual intercourse? **(This means abstaining from anal as well as oral sex)**	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
809	Can a person get the HIV virus by sharing meal with someone who is infected?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
810	Can a person get the HIV virus by using a needle that is used by someone else?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
811	Do you think that a healthy-looking person can be infected with HIV, the virus that causes AIDS?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
812	Can a person get HIV by shaking hand with an HIV infected person?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
813	Can blood transfusion from an infected person to the other transmit HIV?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
814	Can a pregnant woman infected with HIV transmit the virus to her unborn child?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
815	To what extent do you think that you are at risk of HIV infection?	High risk ..... 1 Some risk ..... 2 Little or no risk ..... 3 Don't know ..... 98 No response 99	
816	Why do you think you are at risk of getting HIV?	High risk job ..... 1 Multiple sex partners 2	

Q. N.	Questions	Coding Categories	Skip to
	Multiple answers possible **(DO NOT READ OUT)**	Frequent and regular anal sex....3 Don't use condoms.....4 Irregular condom use.....5 Needles sharing.....6 Other (Specify) _____ ..... 96 Don't know ..... 98 No response 99	818
817	Why do you think you are at little or no risk of HIV? **Multiple answers possible** **(DO NOT READ OUT)**	Always use condoms .....1 Only one sex partner .....2 Partners are clean .....3 Partners are healthy.....4 Never share injections.....5 Share injections sometime only .....6 Other (Specify)_____.....96 Don't know .....98 No response 99	
818	Is it possible in your community for someone to have a confidential HIV test? **(By confidential, I mean that no one will know the result if you don't want him or her to know it.)**	Yes.....1 No .....2 Don't know .....98 No response 99	
819	Have you ever had an HIV test?	Yes.....1 No .....2 Don't know ..... 98 No response 99	901
820	Did you voluntarily take up the HIV test, or were you required to have the test?	Voluntary.....1 Required .....2 No response 99	
821	When did you have your most recent HIV test?	Within the past 12 months .....1 Between 13-24 months.....2 Between 25-48 months.....3 More than 48 months .....4 Don't know .....98 No response 99	
822	How many times have you undergone for HIV test within the last 12 months?	..... Times	
823	Did you receive HIV counselling at that time?	Yes.....1 No .....2 Don't know ..... 98 No response 99	
824	Did you find out the result of your HIV test?	Yes.....1 No .....2 Don't know ..... 98 No response 99	828
825	What was the result of your last test?	Positive.....1 Negative.....2	901

Q. N.	Questions	Coding Categories	Skip to
		Uncertain……..3 Result not received……..4 Don't know……98 No response……99	828 901
826	Did you go to HTC for HIV care once you knew you were HIV positive?	Went……..1 Did not go……2 Don't know……98 No response……99	829
827	Why didn't you go to HTC for HIV care even after knowing you were HIV positive?	Felt I was healthy……..1 Others might know……..2 Had to pay……..3 Bad attitude of healthcare provider..4 Long waiting time/Could not manage with Clinic opening time……..5 Others (Specify)……96 Don't know……98 No response……99	901
828	Why did you not receive the test result?	Sure of not being infected .....1 Afraid of result.....2 Felt unnecessary.....3 Forgot it .....4 Others (Specify) ……96 No response.....99	
829	After knowing positive result did you go for the treatment of HIV in the past 12 months?	Yes …… 1 No ……2	901
829.1	Knowing yourself as HIV positive, why didn't you go for HIV treatment?	Considering myself healthy …….. 1 Fear of being disclosed ……..2 Need money for treatment …… 3 No good behave of service providers …… 4 Have to wait long time/ not favourable service time of clinic …… 5 Others (Specify) _____96 Don't know …….. 98 No Response …… 99	

9.0 KNOWLEDGE AND PARTICIPATION IN STI AND HIV/AIDS PROGRAMS

Q. N.	Questions	Coding Categories	Skip to
901	Have you met or interacted with Peer Educators (PE) or Outreach Educators (OE) or Community Mobilisers (CM) or Community Educators (CE) in the last 12 months?	Yes ..... 1 No ..... 2 → 904 No response 99	
902	What kind of activities did you participate in with such PE /OE/CE/CM? **(Multiple answers. DO NOT READ the possible answers)**	Discussion on how HIV/AIDS is/isn't transmitted.. ..... 1 Discussion on how STI is/isn't Transmitted..... 2 Regular/non-regular use of Condom..... 3 Demonstration on using Condom correctly ..... 4 Others (Specify)_____ 96	
903	How many times have you been visited by PE, OE, CM and/or CE in the last 12 months?	Once..... 1 2-3 times..... 2 4-6 times ..... 3 7-12 times..... 4 More than 12 times..... 5	
904	Have you visited or been to any outreach center (DIC, IC or CC) in the last 12 months? **Drop-In Center (DIC), Information Center (IC), Counseling Center (CC)**	Yes..... 1 No ..... 2 → 907	
905	When you went to the outreach center (DIC,IC or CC), which activities did you take part in? **(Multiple answers. DO NOT READ the possible answers)**	Went to collect condoms. ..... 1 Went to learn the correct way of using condom. ..... 2 Went to watch film on HIV/AIDS.3 Participated in discussion on HIV transmission..... 4 Other (Specify)_____..... 96	
906	How many times have you visited outreach centers (DIC, IC or CC) in the last 12 months?	Once..... 1 2-3 times..... 2 4-6 times ..... 3 7-12 times..... 4 More than 12 times..... 5	
907	Have you visited any STI clinic in the last 12 months?	Yes..... 1 No ..... 2 → 910	
908	When you visited such STI clinic in what activities were you involved? **(Multiple answers. DO NOT READ the possible answers given below)**	Blood tested for STI ..... 1 Physical examination conducted for STI identification..... 2 Discussed on how STI is/isn't transmitted..... 3 Discussed on regular/non-regular use of condom ..... 4 Took a friend with me..... 5 Other (Specify)_____..... 96	

Q. N.	Questions	Coding Categories	Skip to
909	How many times have you visited STI clinic in the last 12 months?	Once.....1 2-3 times.....2 4-6 times.....3 7-12 times.....4 More than 12 times.....5	
910	Have you visited any HTC center in the last 12 months?	Yes.....1 → No.....2	911
910.1	What are the reasons for not to visit HTC in the past 12 months? (Multiple response possible but do not read the options)	No knowledge of HTC center ……1 Not realized for the need of test … 2 I don't have any symptoms of HIV. 3 No close distant HTC center …….. 4 I was already informed about my result …….. 5 No money to visit HTC center …. 6 Fear of being disclosed on visiting HTC center …….. 7 Fear of being informed to family members/friends/costumers …… 8 Discrimination from health workers …….. 9 Other (Specify) _____ 96	1001
911	When you visited such HTC center in what activities were you involved? **(Multiple answers. DO NOT READ the possible answers)**	Received pre-HIV/AIDS test counseling.....1 Blood sample taken for HIV/AIDS test.....2 Received post HIV/AIDS test counseling.....3 Received HIV/AIDS test result.....4 Received counseling on using condom correctly in each sexual intercourse.....5 Took a friend with me.....6 Received information on HIV/AIDS window period.....7 Other (Specify)_____96	
912	For how many times have you visited HTC center in the last 12 months?	Once.....1 2-3 times.....2 4-6 times.....3 7-12 times.....4 More than 12 times.....5	

10.0 USE OF HORMONE

Q. N.	Questions	Coding Categories	Skip to
1001	To bring changes in your body (eg. increase breast size, beautiful looking) do you use hormone?	Yes.....1 No.....2 →	1101

Q. N.	Questions	Coding Categories	Skip to
1001.1	From whose suggestion, have you started using hormone?	Doctor ..... 1 Friend .... 2 Client ..... 3 Self-decision ..... 4 PE/OE ..... 5 Other (specify) _____96	
1001.2	Could you please tell the name of hormone that you use?	_____	
1001.3	After the use of hormone what kinds of effects on physical and mental health happened?	Increased Weight ..... 1 Headache ..... 2 Black spot on face ..... 3 Fever..... 4 Pain on Breast ..... 5 Increase Uric Acid ..... 6 Gastric ..... 7 Other (specify) _____96	

11.0 GENERAL INFORMATION

Q. N.	Questions	Coding Categories	Skip to
1101	Where were you born?	District_____ Gaupalika/Nagarpalika_____	
1102	Where do you live now? **(Do not ask the exact address)**	Districts: _____ Gaupalika/Nagarpalika_____ Don't remember/know ..... 98 No response 99	

12.0 INFORMATION ON BDS AND MSM NETWORK

Q. N.	Questions	Coding Categories	Skip to
1201	Have you ever heard about Blue Diamond Society in Kathmandu city?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
1202	How many other MSM do you know (who also knows you well)? (**Knowing someone is defined as being able to contact them, and having had contact with them in the past 06 months**)	Number: ..... ☐☐☐☐ Don't know ..... 98 No response 99	1204
1203	Among those people, please try to estimate their number by their age group:	≤15 years old ..... ☐☐☐ ≥16 years old ..... ☐☐☐	

Q. N.	Questions	Coding Categories	Skip to
		Don't know ..... 98 No response 99	
1204	How are you related with the person who gave you the coupon for taking part in the study? (**Do not ask this to the seed)**	A close friend ..... 1 A friend ..... 2 Your sex partner ..... 3 A relative ..... 4 A stranger ..... 5 Other (Specify)_____ ..... 96 Don't know ..... 98 No response 99	

Say thanks to the respondent and refer to clinician for STI check-up.

Annex 3. Recruitment tree by MSM and TG