BEHAVIORS
KNOWLEDGE
EXPOSURE TO INTERVENTIONS

Report from

A BEHAVIORAL SURVEILLANCE SURVEY

PORT MORESBY, PAPUA NEW GUINEA

MAY 2011

USAID | ASIA
FROM THE AMERICAN PEOPLE

National AIDS Council
Papua New Guinea

BEHAVIORS, KNOWLEDGE, AND EXPOSURE TO INTERVENTIONS

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USAID/FHI

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Surveillance Team: Mirriam Dogimab (Program Manager, FHI/PNG), William Yeka (Senior Technical Officer, Monitoring and Evaluation, FHI/PNG) and Shiv Nair (Country Director, FHI/PNG) were the Principal Investigators during the USAID/FHI BSS. Dr. Guy Morineau (Senior Technical Advisor, Surveillance, FHI/APRO) served as Co-Investigator and provided technical support during the BSS. We would also like to acknowledge the invaluable contributions of Eddie Oa and Elizabeth Gande as Field Supervisors as well as their teams of interviewers and coupon managers and administrators.

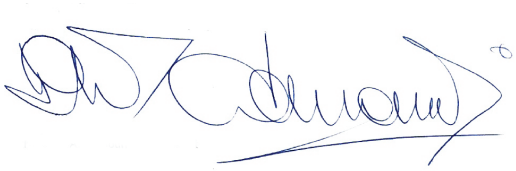
Report Production: Dr. Guy Morineau principally authored this report with technical support from FHI staff. Timothy Ryan (Solve CWS) edited the report. Krittaporn Termvanich (FHI/APRO) and Rosnani Sarif (FHI/APRO) designed and laid out the report.

FOREWORD

HIV is a critical health and development issue that affects multiple facets of an individual's, family's and community's life. Since the first case reported in 1987, the Government of PNG and its national and international partners have collaborated to address the needs of those infected and affected by HIV. A critical element to making this happen in an effective way is data, without it we cannot plan and implement appropriate prevention, care and treatment responses.

In November 2010 with generous support from the United States Agency for International Development, FHI carried out a behavioral survey among high risk populations in Port Moresby. This report presents the results of that effort. It is meant to serve as a basis for sound, evidence-based programming.

I encourage my government colleagues and all national and international agencies working in PNG to read this report and consider how they can contribute to addressing some of the key issues that are raised. I am personally grateful for these data, they highlight the plight of many that are affected by HIV, and provide a basis from which we can work together to mitigate the negative impacts of this disease.



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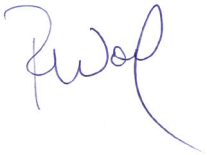

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ACRONYMS

AIDS	acquired immunodeficiency syndrome
APRO	FHI Asia Pacific Regional Office
ART	antiretroviral therapy
BSS	behavioral surveillance survey
FSW	female sex worker
HIV	human immunodeficiency virus
IHRG	International HIV Research Group
IRB	institutional review board
MARPs	most-at-risk populations
MSM	men who have sex with men
NGO	non-governmental organization
PLHIV	people living with HIV
PNG	Papua New Guinea
PNG IMR	Papua New Guinea Institute of Medical Research
POM	Port Moresby
RDS	respondent driven sampling
STI	sexually transmitted infection
UNGASS	United Nations General Assembly Special Session (on HIV/AIDS)
USAID	United States Agency for International Development

CONTENTS

LIST OF FIGURES AND TABLES

1 EXECUTIVE SUMMARY

Available data on HIV prevalence in Papua New Guinea (PNG) indicates that the country is on the verge of a generalized HIV epidemic. As of March 2010, prevalence among the general population was 0.79% while risk groups have a higher prevalence ranging between 4.3% among men who have sex with men (MSM) and 5.9% among female sex workers (FSW).[1]

Low levels of testing, limited surveillance information, the high prevalence of sexually transmitted infections (STIs), and increasing evidence of risk behavior (such as unprotected sex, multiple concurrent sexual partnerships, and early age of sexual initiation) suggest that these prevalence rates may be underestimated. A 2010 systematic review and meta-analysis of HIV and STI prevalences in PNG found that prevalences from community-based studies in PNG were higher than in many other countries in the Asia-Pacific.[2] It is likely that the loss of traditional cultural structure due to rapid urbanization has also affected sexual behaviors in Port Moresby (POM), the capital and largest city of PNG, where women selling sex and MSM are thought to be the groups most vulnerable to HIV.

Previous biological and behavioral surveillance surveys (BSS) conducted in POM support these conclusions. In 2005, the United States Agency for International Development (USAID) funded FHI and the Papua New Guinea Institute of Medical Research (PNG IMR) to conduct a baseline survey among FSW and MSM in POM. A BSS was subsequently conducted in 2006 among out-of-school youth in POM and, in 2009, a BSS was repeated among that population. Most recently, in 2010, the International HIV Research Group (IHRG) of the University of New South Wales, Australia and PNG IMR conducted a bio-behavioral study of people who sell and exchange sex in POM.[3]

In late 2010, USAID funded FHI to conduct a BSS among MSM and women in POM in order to better understand how HIV is transmitted in the country; how transactional sex contributes to the HIV epidemic; and to help assess the outcomes of HIV outreach and prevention efforts.

Respondent driven sampling (RDS) was used to survey 585 participants in November and December 2010. The information gathered during the USAID/FHI BSS will make it possible to tailor programs to the needs of these populations, and to serve as a baseline for future evaluations of program outcomes.

In total, 585 participants (302 MSM and 283 women) were surveyed during the USAID/FHI BSS. These participants were generally young and had been

FIGURES AT A GLANCE

Anal sex within heterosexual sex

- 87% of MSM who had sex with women had anal sex with their female partners in the previous month
- 57% of women had anal sex with a client in the previous month

Sexual violence

- 58% of MSM were sexually abused in the previous year
- 53% of MSM had forced anal sex in the previous month
- 30% of MSM had forced anal sex on more than one occasion in the previous month
- 78% of women were sexually abused in the previous year
- 71% of women were forced into sex in the previous month

STIs

- 40% of MSM had STI symptoms in the previous year (21% had symptoms at the time of the interview)
- 33% of women had an ulcerative STI or rectal infection in the previous year (17% had symptoms at the time of interview)

Use of male latex condoms

- 11% of MSM (and 16% of women) purchased condoms in the previous month
- 9% of MSM (and 14% of women) had never used a male latex condom
- 43% of women received condoms monthly from outreach workers

Discrimination and stigma

- 63% of MSM had been rejected by their family; 26% had been rejected by their community
- 61% of women who were known to be selling sex had been rejected by their family; 49% had been rejected by their community

[1] 2010. UNGASS 2010 country progress report. PNG National AIDS Council Secretariat and Partners.

[2] Vallely A, Page A, Dias S, Siba P, Lupiwa T, et al. (2010) The Prevalence of Sexually Transmitted Infections in Papua New Guinea: A Systematic Review and Meta-Analysis. PLoS ONE 5(12): e15586. doi:10.1371/journal.pone.0015586

[3] Kelly, A., Kupul, M., Man, W.Y.N., Nosi, S., Lote, N., Rawstorne, P., Halim, G., Ryan, C. & Worth, H. (2011) Askim na save (Ask and understand): People who sell and/or exchange sex in Port Moresby. Key Quantitative Findings. Papua New Guinea Institute of Medical Research and the University of New South Wales: Sydney, Australia.

living in POM for many years, although many had travelled outside of POM in the previous year, implying that the results of the survey are also relevant to other areas of PNG. Most participants had never married and were living with relatives. The majority had completed primary school and some had continued their further education. Despite being largely unemployed, most women had dependents and children less than 5 years old.

The results of the USAID/FHI BSS are noteworthy in that they support evidence of high-risk behaviors collected during previous studies and surveys. As reported elsewhere, for example, the USAID/FHI BSS found a high degree of violence towards MSM and women (particularly by family members or people known to the participant); a lack of fixed venues for sex work; greater awareness of HIV transmission from mother to child than through unprotected sex; and low levels of condom use with both partners and clients.

Equally important for future programs, however, are high risk behaviors and new trends that are revealed by the USAID/FHI BSS, such as high levels of anal sex among both sexes; the purchase of anal sex by women; a significant population that had never used latex condoms; the refusal of care providers to deliver services to women that sell sex; and a high prevalence of penile modification.

An important goal of the USAID/FHI BSS was to assess the outcomes of HIV outreach and prevention efforts. To accomplish this, information collected during the BSS about service use was compared against the preventative behaviors of BSS participants, and a dose effect response was detected. Although these results should be considered carefully, nonetheless there is reason to believe that increased service use contributes to safer sexual behavior by both MSM and women who sell sex in POM.

2 METHODS

2.1. **OBJECTIVES**

The objective of the USAID/FHI behavioral surveillance survey (BSS) was to collect and analyze information about most-at-risk populations (MARPs) in Port Moresby (POM), Papua New Guinea (PNG) in order to better understand how HIV is transmitted in the country; how transactional sex contributes to the HIV epidemic there; and to help assess the outcomes of HIV outreach and prevention efforts. The results of the BSS were also intended to help tailor programs to the needs of MARPs and to serve as a baseline for future evaluation of program impact.

To achieve these objectives, the BSS was designed to document the characteristics of men who have sex with men (MSM) and women exchanging sex for money or goods, and among them:

- Identify and estimate the prevalence of HIV/STI related risk behaviors
- Assess the contribution of violence and discrimination to the HIV epidemic
- Evaluate the coverage of outreach interventions and the impact of interventions on sexual behaviors
- Assess the uptake of clinical services and barriers to services
- Explore venues where sex is contracted and takes place
- Assess unmet needs of women for reproductive health
- Assess the importance of alcohol, tobacco and cannabis as health risk factors in the population in PNG

2.2. **SURVEY** POPULATIONS

The BSS targeted two distinct MARPs: MSM and women engaged in transactional sex. Operational definitions for these two populations were developed as part of the selection criteria.

Those eligible to participate in the survey of MSM were:

- Biological males aged between 15 and 49 years old
- Who had anal sex with at least one man in the past 3 months
- Who had been living in Port Moresby for at least 12 months
- Who were not under the influence of alcohol or drugs at the time of interview
- Who were holders of a valid recruitment coupon

Those eligible to participate in the survey of women engaged in transactional sex were:

- Women aged between 15 and 49 years old
- Who had exchanged sex for money or goods with at least two men in the past 7 days
- Who had been living in Port Moresby for at least 12 months
- Who were not under the influence of alcohol or drugs at the time of interview
- Who were holders of a valid recruitment coupon

2.3. **SAMPLE** SIZE

Empirically the BSS required a minimal sample size of 200 participants per population group in order to disaggregate data and have sufficient information to evaluate the outcomes of interventions. Because the results were also intended to serve as a baseline for monitoring future interventions and their effect on behavior, however, the sample size was increased to 300 participants per population group in order to provide greater precision.

2.4. **SAMPLING** METHODOLOGY

Participants were sampled using respondent driven sampling (RDS). This methodology was chosen because widespread discrimination against MSM and women engaged in transactional sex make the survey populations hard to find and because there are no fixed venues for transactional sex in POM that could be used to construct a sampling frame.

Four MSM seeds and six seeds of women engaged in transactional sex were invited to a half-day orientation, during which the survey objectives and recruitment procedures were described. Each recruit was provided three coupons that could be used to recruit peers.

Participants presenting at the survey sites with valid coupons were screened by peers. Screeners conducted an ice-breaking interview during which they determined the applicants' understanding of the survey objectives; their

motivation for participating; the person who had recruited them; and their eligibility in term of age, sexual behaviors, and absence of intoxication.

Following the assessment of eligibility criteria:

- 82 MSM were excluded (21% of individuals screened)
- 67 women were excluded (19% of individuals screened)

2.5. **DATA COLLECTION** PROCEDURES

Data was collected between November and December 2010. Two residential houses in the suburbs of POM were rented and used as survey sites. Women were interviewed at a site in Waigani, approximately a 10-minute walk from a bus stop. MSM were interviewed at a site in Boroko, approximately a 1-minute walk from a bus stop and close to a discotheque frequented by MSM. Data collection sites operated between 8 AM and 5 PM, Monday to Saturday, making it possible for people with full-time employment to participate.

Students hired for the survey organized the flow of participants. After screening, peer interviewers administered oral informed consent procedures and conducted a 30-45 minute interview that followed a structured questionnaire. Participants were offered the interview in either English or Tok Pisin (an official language of PNG and the most widely used language in the country).

Upon completing the interview, participants were given free condoms and 20 Kina (the currency of PNG) to compensate them for their time and the cost of transport to the survey site. Participants subsequently received 10 Kina for each person they recruited who was successfully interviewed (maximum of three recruits per participant).

FHI ensured adherence to the survey protocol through constant supervision.

2.6. **ETHICS**

The protocol and survey instruments were reviewed and approved by the FHI Office of International Research Ethics and by the National AIDS Council Secretariat Research Advisory Committee.

2.7. **DATA** MANAGEMENT

Data collected during interviews was double-entered using Epi-Info 2000. The two datasets were compared and cleaned for data entry errors. Inconsistencies in the data were tracked and corrected in the final data set.

3 POPULATION **SOCIO-DEMOGRAPHIC** CHARACTERISTICS

In total, 585 participants (302 MSM and 283 women) were surveyed between November and December 2010 (see *Table 1. BSS Population Socio-demographics*).

3.1. **MSM**

MSM surveyed were generally young (mean of 25 years). More than half (64%) had travelled outside of POM in the previous year. Most (82%) had never been married and were living with relatives (75%) without dependents (66%). About half reported being bisexual and 14% identified as being heterosexual. The majority of MSM surveyed were educated beyond primary school but unemployment was high (47%). Of those employed, 49% were private sector staff, 15% NGO staff, 9% self-employed, and 2% government employees.

3.2. **WOMEN**

Women surveyed were also generally young (mean age 26 years). Many (61%) had travelled outside POM in the previous year. More than half (61%) had completed primary school, however 74% had not continued their education and 13% had never attended school. The overwhelming majority of women (88%) were neither married nor living with a partner at the time of the survey; most (70%) lived with relatives. Of those married, 29% reported being one of the many wives of a polygamous husband. Despite being largely unemployed (79%), half of the women had at least three dependents, more than half (55%) had children, and 27% had a child aged less than 5 years old. Of those employed, 28% were private sector staff, 25% NGO staff, and 18% reported sex work as their main income generating activity.

FIGURE 1: AGE, MARITAL STATUS, AND EDUCATION OF SURVEY RESPONDENTS

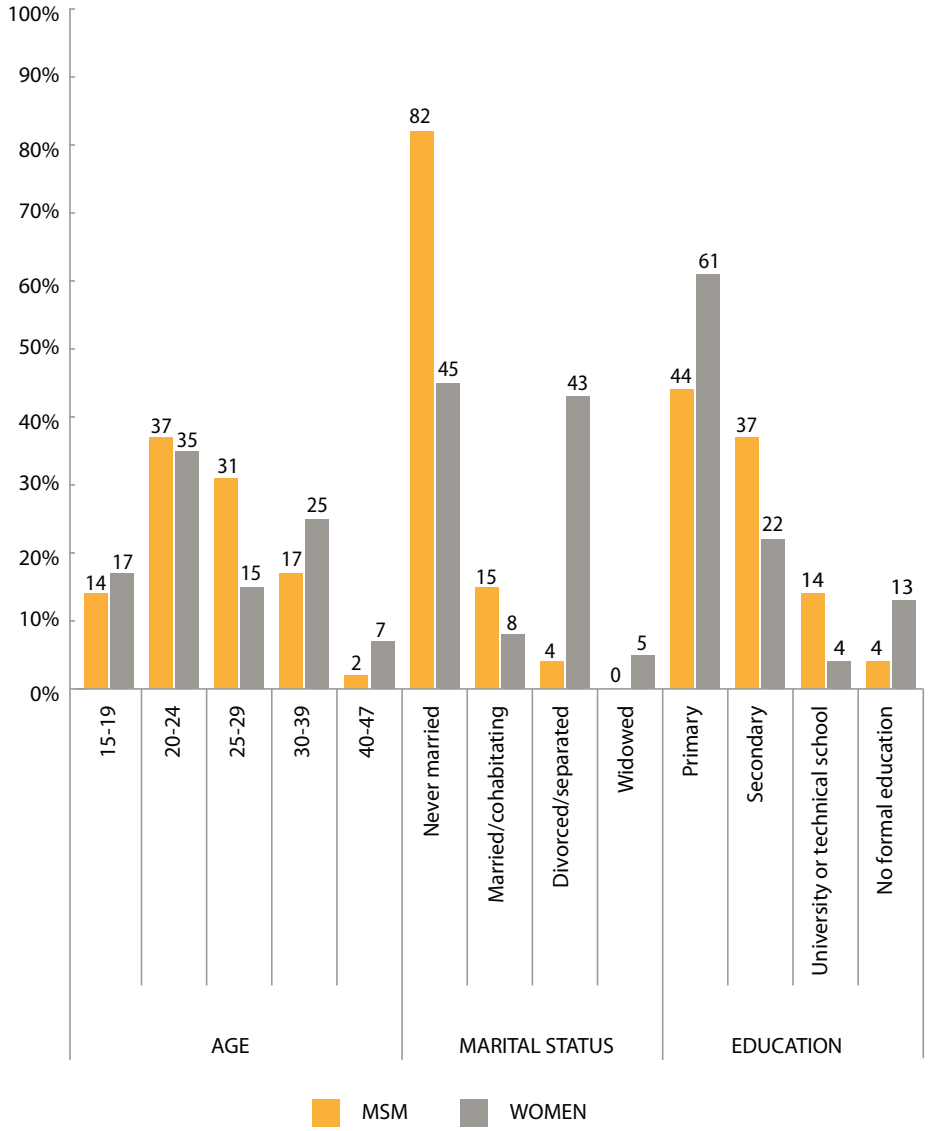


TABLE 1. SURVEY RESPONDENT SOCIO-DEMOGRAPHICS

		MSM	WOMEN
NUMBER OF **RESPONDENTS**		302	283
Age (years)	15-19	14%	17%
	20-24	37%	35%
	25-29	31%	15%
	30-39	17%	25%
	40-46	2%	7%
	Mean age	25	26
	Median age	24	24
Marital status	Never married	82%	45%
	Currently married / cohabitating	15%	8%
	Divorced / separated	4%	43%
	Widow	N/A	5%
Children	Have children	N/A	55%
	Currently have a child less than 5 years old	N/A	27%
Education	No formal education/ elementary school	4%	13%
	Completed primary school	44%	61%
	Completed secondary school	37%	22%
	Attended university or technical school	14%	4%
	Currently attending classes	48%	6%
Employment	Unemployed	47%	79%
	Employed full-time	16%	11%
	Part time job / self-employed	23%	7%
	Student	14%	3%
Dependents	Does not provide financial support to anyone	66%	27%
	1 - 2 persons financially supported	9%	14%
	3 - 5 persons financially supported	8%	23%
	More than 5 persons financially supported	13%	37%
	Mean number of dependents	1.8	4.5
	Median number of dependents	0	4
Currently living with	Relatives	75%	70%
	Friends	6%	13%
	Alone	3%	5%
	Wife/husband/partner	2%	4%
	Other	14%	9%
Duration living in POM	<=5 years	11%	15%
	>5 years but not entire life	32%	40%
	Since birth	57%	45%
Have traveled away from POM in the past 12 months		64%	61%

4 REPRODUCTIVE HEALTH

The majority (63%) of women interviewed had previously been pregnant (mean of 1.6 pregnancies per woman lifetime).

Among women that had previously been pregnant, women between 15-29 years old reported significantly fewer pregnancies in their lifetime (mean 1.0 pregnancies) than women between 30-47 years old (mean 2.9 pregnancies). Forty-four percent (44%) of the women had never given birth, 23% had given birth once, and 32% had given birth at least twice (including 5% who had given birth between 5 and 9 times). More than a quarter (28%) had experienced at least one miscarriage.

Nearly all women that had given birth (91%) used antenatal care services during their last pregnancy. The majority had delivered at a clinic (86%) or at home (13%). Nearly all (89%) had used post-natal maternal and child health care services, during which 99% of children had received at least one immunization.

Overall, 15% of the women were caring for a child aged 24 months or younger. Among these, 8% were currently breastfeeding. Two-fifths (41%) of these women had exclusively breastfed their baby in the previous month.

Most (70%) of the women at-risk for pregnancy did not want to become pregnant in the next 12 months, however only 41% of those women were currently using modern contraceptives other than condoms – indicating a large unmet contraceptive need among this population.

A sizeable proportion (13%)[4] of women that reported having had a voluntary abortion demonstrates the health impact of this lack of contraceptive use. Furthermore, because abortion services are illegal in PNG, most abortions (83%) were conducted without assistance from medically trained staff. Instead, abortions were most often conducted with the assistance of someone from the neighborhood or a friend (48%) or were self-inflicted (22%). Herbal medicine (45%) and intake of tablets (23%) were the most common methods used at last abortion.

FIGURE 2: PREGNANCY OUTCOMES IN RESPONDENTS' LIFETIME

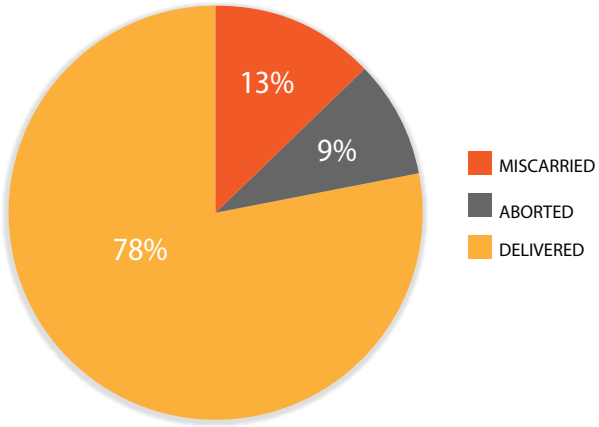


FIGURE 3: WHO CONDUCTED LAST ABORTION (n=23)

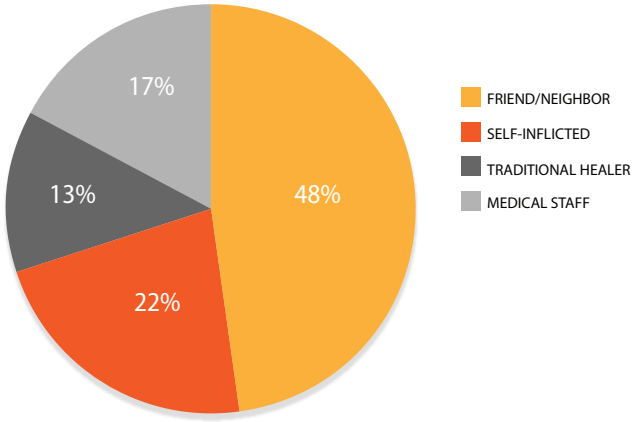
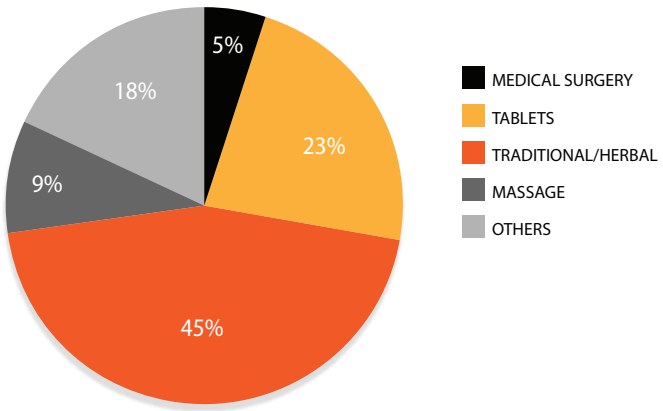


FIGURE 4: ABORTION METHODS, LAST ABORTION



[4] It is likely that abortions were under-reported during the BSS, as is usually the case in countries where abortion is illegal.

TABLE 2. REPRODUCTIVE HEALTH OVERVIEW

		WOMEN
NUMBER OF **RESPONDENTS**		283
Number of pregnancies	Never pregnant	37%
	One pregnancy	23%
	2 - 5 pregnancies	36%
	> 5 pregnancies	4%
	Mean number of pregnancies	1.6
	Median number of pregnancies	1
Timing of last pregnancy	Never pregnant	37%
	In past 6 months	4%
	Past 6 - 12 months	7%
	Past 1 - 2 years	15%
	More than 2 years ago	35%
Number of deliveries	Nulliparrous	44%
	Primiparous	23%
	Multiparous	32%
	Mean number of deliveries	1.2
	Median number of deliveries	1
Have a child aged <=24 months		15%
Currently breastfeeding		8%

TABLE 3. HISTORY OF DELIVERIES

		WOMEN
NUMBER OF **RESPONDENTS**		157
Who assisted last delivery	Doctor	15%
	Nurse	48%
	Midwife	19%
	Friend / neighbor / relative	17%
	Traditional healer	1%
	Nobody	1%
Location where last delivery took place	Public hospital	85%
	Home	13%
	Outdoor	1%
	Private Clinic	1%

TABLE 4. HISTORY OF ABORTIONS AND MISCARRIAGES

		WOMEN
NUMBER OF **RESPONDENTS**		178
Number of miscarriages	None	72%
	One	23%
	Multiple	4%
Number of voluntary abortions	None	37%
	One	4%
	Multiple	7%

5.1. MSM

Most MSM were sexually initiated as teenagers (mean age of 16.6 years old at sexual initiation). More than half of the MSM (51%) were sexually initiated by a man, frequently (27%) as part of a cultural initiation (ritualized homosexuality). Overall, 13% of the MSM had been forced at first sex and 17% had sold sex at first sex.

FIGURE 5: AGE OF SEXUAL INITIATION AMONG MSM

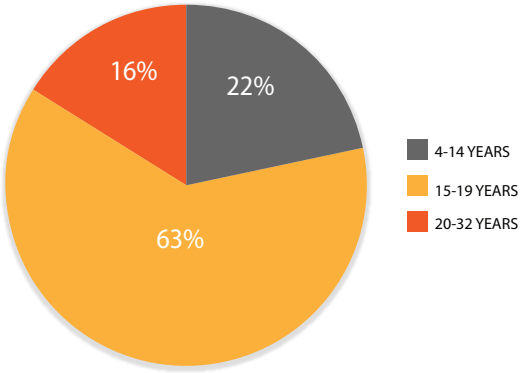
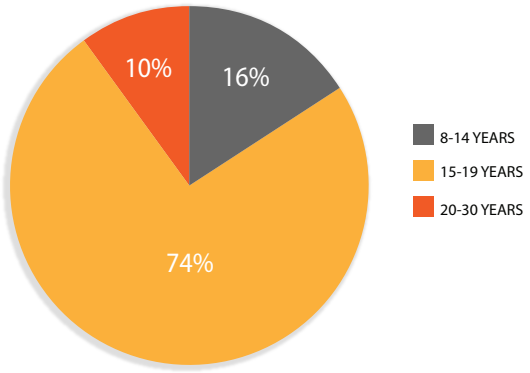


FIGURE 6: AGE OF SEXUAL INITIATION AMONG WOMEN



5.2. WOMEN

Most women were sexually initiated as teenagers (mean age of 16.6 years old at sexual initiation) by a man who was no more than 10 years older than themselves. A significant number (16%) had first sex before they were 15 years old, and of these women 20% were sexually initiated by a man aged between 30-49 years old and 37% were forced at first sex. Overall, more than a quarter (27%) of women were sexually abused at first sex and nearly half (45%) received money or goods in exchange for first sex.

TABLE 5. SEXUAL INITIATION, MSM AND WOMEN

		MSM	WOMEN
NUMBER OF **RESPONDENTS**		302	283
Age at first sex (years)	4-14	22%	16%
	15-19	63%	74%
	20-40	16%	10%
	Mean age	16.6	16.6
	Median age	17	16
Forced at first sex		13%	27%
Sold sex at first sex		17%	45%
First male-to-male sex as part of cultural initiation		27%	N/A
Gender of first partner	Man	51%	N/A
	Woman	9%	N/A
	Transgender	0%	N/A

6.1. **MSM**

Nearly half of the MSM interviewed had a regular partner (27% male and 22% female). Most MSM, however, reported that they had sex with multiple partners (mean 2.5 male and 2.1 female) in the previous month. The majority had sold sex to male clients (mean 1.5 clients) and a third reported that they had compensated other men for sex (mean 0.6 men) during the previous month.

Sexual assault of MSM by men was common. More than half of MSM reported that men sexually assaulted them during the previous month.

In addition to sex with men, a high percentage of MSM (71%) had sex with women during the previous month. About half had sold sex to women and a third had paid a woman for sex. Most of the MSM (87%) that had sex in the previous month had anal sex with their female partners.

FIGURE 7: TYPES OF SEXUAL PARTNERS REPORTED BY MSM DURING THE PREVIOUS MONTH

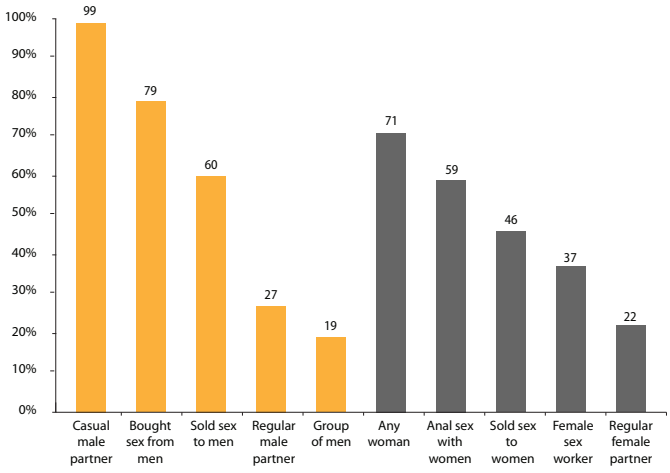
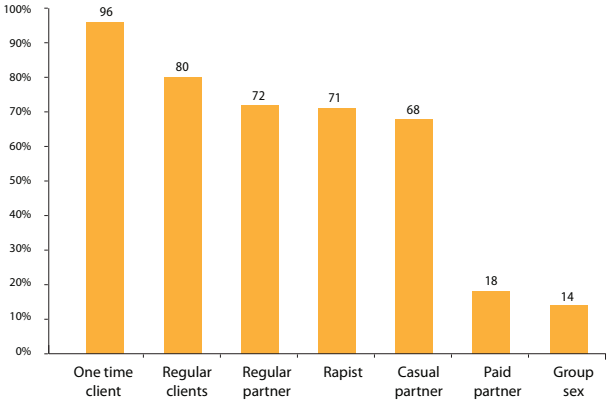


FIGURE 8: TYPES OF SEXUAL PARTNERS REPORTED BY WOMEN DURING THE PREVIOUS MONTH



6.2. **WOMEN**

Most women reported that they had several (mean 7.5) male partners in the previous month. Almost all of the women (99%) sold sex to men (mean 4.5 male clients) during that period and 18% paid men for sex. The overwhelming majority of women (63%) had been victims of a rape in the previous month; about a third of women reported that they had been raped at least thrice in that month.

Group sex in the past month was reported by 14% of the women, however this was neither associated with having been raped in the previous month nor with the number of men who had abused them in the previous month.

TABLE 6. NUMBERS AND TYPES OF SEXUAL PARTNERS

		MSM	WOMEN
NUMBER OF **RESPONDENTS**		302	283
Currently have regular partner	No regular partner	51%	63%
	Male regular partner	27%	27%
	Female regular partner	22%	N/A
Number of male sexual partners previous month	None	3%	N/A
	Mean	2.5 men	7.5 men
	Median	2 men	6 men
Number of male clients previous month	None	21%	1%
	No response	19%	N/A
	Mean	1.5 men	4.5 men
	Median	1 man	3 men
Number of men compensated for sex previous month	None	48%	82%
	No response	19%	N/A
	Mean	0.6 men	0.4 men
	Median	0 men	0 men
Number of men who sexually assaulted you previous month	None	39%	27%
	No response	8%	N/A
	Mean	1.1 men	2 men
	Median	1 man	1 man
Number of female partners previous month	None	29%	N/A
	Mean	2.1 women	N/A
	Median	2 women	N/A
Number of FSW paid for sex previous month	None	63%	N/A
	Mean	0.9 FSW	N/A
	Median	0 FSW	N/A
Number of female clients paying for sex previous month	None	54%	N/A
	Mean	0.9 women	N/A
	Median	0 women	N/A

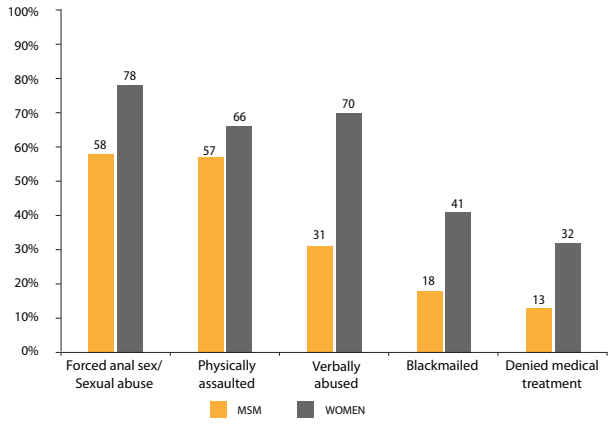
7.1. MSM

The majority of MSM (58%) reported that they had been sexually abused in the previous year. Most (53%) reported that they had forced anal sex during the previous month and 30% reported that they had forced anal sex on more than one occasion during that period.

Among MSM who had been sexually abused in the previous year, 77% had been raped by a regular partner, 61% by clients, and 61% by street youth. A third of MSM reported that they had been gang raped in the previous year.

MSM reported frequent discrimination. Fifty-seven percent (57%) of MSM reported that they had been beaten because of their sexual orientation in the previous year; the majority of those MSM (73%) had received multiple beatings during that period. Among the MSM that had been beaten in the previous three months because of their sexual orientation, 35% had been beaten by police, 30% by street youth, and 27% by relatives. Many MSM had been blackmailed (18%) or refused medical treatment (13%) in the previous year because of their sexual orientation.

FIGURE 9: ABUSES REPORTED BY MSM AND WOMEN IN THE PREVIOUS YEAR AS A CONSEQUENCE OF THEIR SEXUAL ORIENTATION (MSM) OR SELLING SEX (WOMEN)

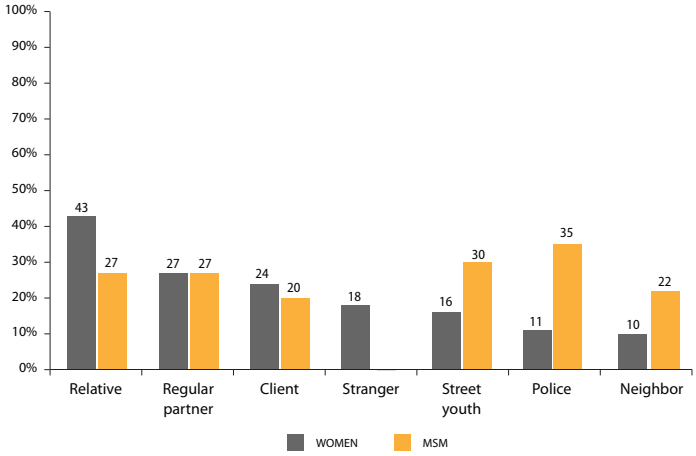


The self-stigmatization that results from discrimination leads many MSM and women to not disclose their sexual behavior. Most MSM had not revealed their sexual orientation to their family (76%) or community (77%) and reported that disclosing their sexual orientation put them at risk of exclusion. Among MSM who had revealed their sexual orientation, 63% had been excluded by their family and 26% had been excluded by their community, both of which increased their vulnerability in a society where the clan protects the individual from outsiders.

7.2. WOMEN

Most women (78%) reported that they had been sexually abused in the previous year. Seventy-one percent (71%) reported that they had been raped in the previous months and about half reported that they had been raped on more than one occasion during that period. Women were most commonly raped by clients (63%), regular partners (61%), and street youth (31%).

FIGURE 10: PERPETRATORS OF BEATINGS REPORTED BY MSM AND WOMEN IN THE PREVIOUS THREE MONTHS



A high percentage of women were also physically assaulted (66%), blackmailed (41%), and/or verbally abused (70%) during the previous year. Many reported that they received beatings in the previous three months. Perpetrators of violence against women were largely relatives (43% of beatings), regular partners (27% of beatings), and other people known to the women indicating that the home is a high-risk environment.

As with MSM, women reported high levels of discrimination. Despite the fact that many (more than 25%) of the women hid their sex work from family and the community, more than one third of all women were shunned from their family (43%) and/or community (35%) because of selling sex. A third of the women (32%) were denied medical treatment when they disclosed to providers that they sold sex. More than a third (36%) reported that they feel ashamed of selling sex. Of women who had been tested for HIV in the past year, 27% wanted to keep their serostatus secret.

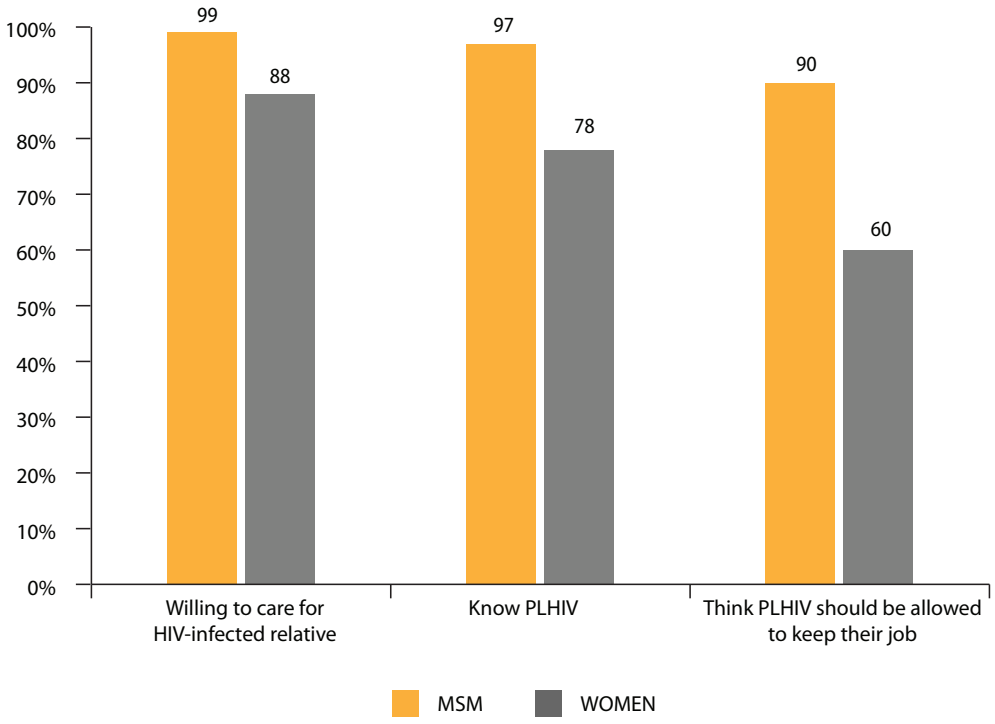
TABLE 7. VIOLENCE, STIGMA AND DISCRIMINATION

		MSM	WOMEN
NUMBER OF **RESPONDENTS**		302	283
Abuse in the previous year	Blackmailed	18%	41%
	Denied medical treatment	13%	32%
	Forced anal sex (MSM)/Sexually abused (Women)	58%	78%
	Physically assaulted	57%	66%
	Verbally abused	31%	70%
Perpetrators of beatings reported in the previous three months	Client	20%	24%
	Neighbor	22%	10%
	Police	35%	11%
	Regular partner	27%	27%
	Relative	27%	43%
	Stranger	N/A	18%
	Street youth	30%	16%
Perpetrators of rapes reported by those raped in the previous year	Client	61%	63%
	Group of men	49%	25%
	Neighbor	30%	16%
	Police	20%	16%
	Regular partner	77%	61%
	Relative	21%	43%
	Street youth	61%	16%
Family discrimination	Not aware of sexual orientation/sex work	76%	29%
	Still accepted	9%	28%
	Excluded	15%	43%
Community discrimination	Not aware of sexual orientation/sex work	77%	28%
	Still accepted	17%	37%
	Excluded	6%	35%
Self-inhibition	Avoid seeking health care because of sexual orientation/sex work	5%	36%
	Feel ashamed because of sexual orientation/selling sex	10%	26%

7.3. **DISCRIMINATION AGAINST** PLHIV

Nearly all MSM (97%) and women (78%) knew PLHIV, suggesting that the epidemic may be becoming normalized within some populations. MSM did not demonstrate any signs of discrimination against PLHIV, as 99% reported that they would be willing to care for PLHIV and 90% believed that PLHIV should be allowed to keep their job as long as their health status allowed it. Significantly fewer women (only 60%) felt that PLHIV should be allowed to keep their job.

FIGURE 11: EXPERIENCE WITH AND PERCEPTIONS TOWARDS PLHIV



8 MODALITIES OF TRANSACTIONAL SEX

Fixed venues for transactional sex do not exist in POM and therefore MSM and women conduct these transactions in diverse settings, as opportunities appear during their day-to-day life (see Table 8 and Table 9). MSM (31%) and women (38%) met their most recent client while shopping, while 28% of women met their most recent client at a nightclub or bar.

FIGURE 12: INCENTIVES GIVEN AND RECEIVED BY WOMEN IN EXCHANGE FOR SEX

The absence of fixed venues where MSM and women meet clients is a challenge for prevention programs that target them. However, the places where women had their most recent sexual intercourse with a client may provide an avenue to reach some women engaged in transactional sex. Indeed, about half of women (47%) reported that they had sex with their last client in a guesthouse or hotel; 22% had sex with their last client in his home. Far fewer MSM (10%) used a guesthouse or hotel to have sex with their last client. More often, MSM had sex with their casual partners outdoors (40%)or in their home (26%).

Women reported that they usually (84% of last clients) received money in return for sex rather than goods such as drink (31%) or food (28%). Women paid significantly less when buying sex than what they reported receiving when selling sex. Women often (23%) provided incentives other than money, such as domestic services, in exchange for sex.

TABLE 8. MODALITIES OF SEX (MSM)

		MSM	
		Casual male partner	Male client
NUMBER OF **RESPONDENTS**		299	178
Location, met partner	Shop/market	29%	31%
	Settlement/village	29%	17%
	Beach/street	17%	13%
	Night club/bar	13%	17%
	Introduced by friends	6%	13%
	Hotel/guest house	3%	8%
	Other	3%	N/A
Location, had sex	Outdoor	40%	34%
	Respondent home	26%	16%
	Client home	15%	20%
	Hotel / guest house	8%	10%
	Other	5%	10%
	Friend home	N/A	9%

TABLE 9. MODALITIES OF TRANSACTIONAL SEX (WOMEN)

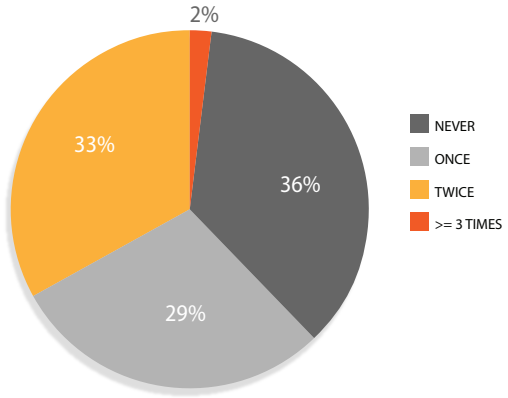
		WOMEN
NUMBER OF **RESPONDENTS**		283
Location, met last client	Shop/market	38%
	Night club/bar	29%
	Street	14%
	Other	10%
	Hotel/guest house	6%
	Beach	4%
Location, sex with last client	Hotel/guest house	47%
	Client home	22%
	Outdoor	15%
	Respondent/friend home	11%
	Car/truck	4%
	Other	2%
Financial incentive paid by last client to women	Was not paid with money	16%
	<=15 Kina	3%
	16-50 Kina	18%
	>50 Kina	63%
Financial incentive given to last paid male partner by women	Did not give money	68%
	<=15 Kina	2%
	16-50 Kina	22%
	>50 Kina	8%

9.1. MSM

Despite the fact that the overwhelming majority of MSM (92%) reported condoms were easy to acquire, few (11%) MSM had purchased condoms in the previous month and only a third (33%) of MSM reported having received condoms monthly from outreach workers. A significant number of MSM (9%) had never used a male latex condom before.

MSM reported condom use at last sex - which indicates an intention to use a condom rather than a level of effective protection against HIV - is detailed in Table 10. Among MSM partners, condom use at last sex ranged from 60% to 79% and was generally higher with female than with male partners.

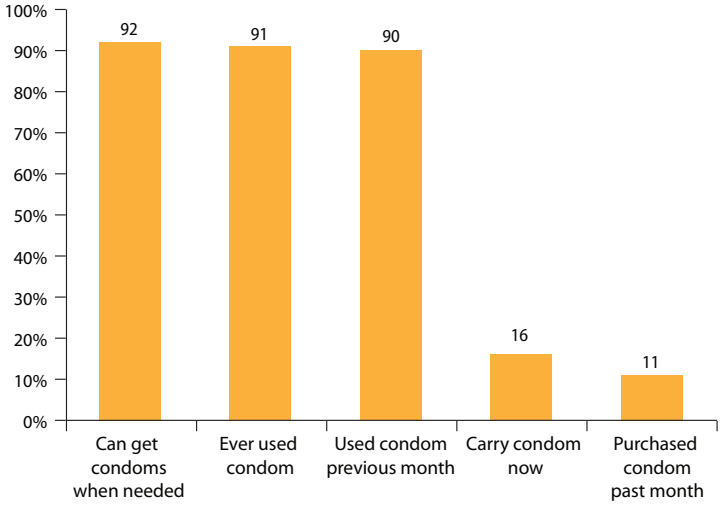
FIGURE 13: PERCENTAGE OF MSM THAT RECEIVED CONDOMS FROM OUTREACH INTERVENTIONS IN THE PREVIOUS THREE MONTHS



Among male partners, condom use at last sex varied from 72% with an unknown client to 60% with a casual male partner. With female partners, 79% of the MSM reported having used a condom at last sex with a female sex worker and 73% reported condom use at last sex with a female casual partner.

Most (90%) MSM reported that they had used condoms in the previous month; however, the proportion of MSM that reported having always used condoms in the previous month was low. Indeed, consistent use of condoms in anal sex with male partners in the previous month ranged from 13% to 20% depending on the type of partner. Consistent use of condoms with female partners in the previous month ranged from 15% to 12% depending on the type of partner.

FIGURE 14: ACCESS TO, AND USE OF CONDOMS BY MSM



When asked about their use of condoms in the previous month, MSM were offered a list of answers including: "Never", "Some of the times", "Most of the times", and "Always".

Assuming that all respondents had a similar number of partners, the percentage of sex acts protected by condoms was estimated by attributing to these responses the values of a four-grade scale (0%, 33%, 66%, and 100%). Based on this calculation, it is estimated that the proportion of all sexual encounters protected with condom ranged from 39% to 45% with male partners, whereas about 43% of all sexual encounters with women were protected with condoms. The percentage of sex acts protected by condoms in the past month was higher with female regular partners (43%) than with male regular partners (39%). Such levels of condom use are too low to contain an HIV epidemic, which is likely to be growing among the population of MSM in POM.

Despite the relatively low frequency of condom use and their moderate number of partners, 27% of MSM reported having experienced some condom

TABLE 10. CONDOM USE AT LAST SEX BY MSM, BY PARTNER TYPE

Male one time client	72%
Male regular client	70%
Male sex worker	67%
Casual male partner	60%
Female sex worker	79%
Female client	73%
Casual female partner	73%

breakage in the past month. Fourteen percent (14%) of MSM reported having some penis implants. Those with penis implants were more likely than those with no penis implants to have experienced any condom breakage in the past month (42% versus 24%).

Overall, 90% of MSM had ever used lubricant in anal sex and more than half of MSM reported having used water-based lubricant at last sex with their regular male partner or male client. However, only 8% of MSM always used lubricant in anal sex with male partners and lubricant was used in only a third of all anal sexual encounters (Table 11). Those who had not or seldom used lubricant in anal sex in the previous month presented a higher frequency of condom breakages than those who had often or always used lubricant in the past month. However, the difference was not statistically significant due to small number and due to the fact that those using greasy lubricant displayed also a high frequency of breakages.

TABLE 11. LUBRICANT USE AND CONDOM BREAKAGE (MSM)

		MSM	
		Regular male partner	Male client
Type of lubricant last anal sex	Did not use lubricant	21%	10%
	Saliva	19%	17%
	Water-based lubricant	55%	66%
	Other grease	6%	6%
Overview of lubricant use	Ever used lubricant	90%	
	Percent of anal sex acts with lubricant	37%	
	Always used lubricant in anal sex in previous month	8%	

FIGURE 15: MSM REPORTING CONSISTENT CONDOM USE IN THE PREVIOUS MONTH, BY TYPE OF PARTNER

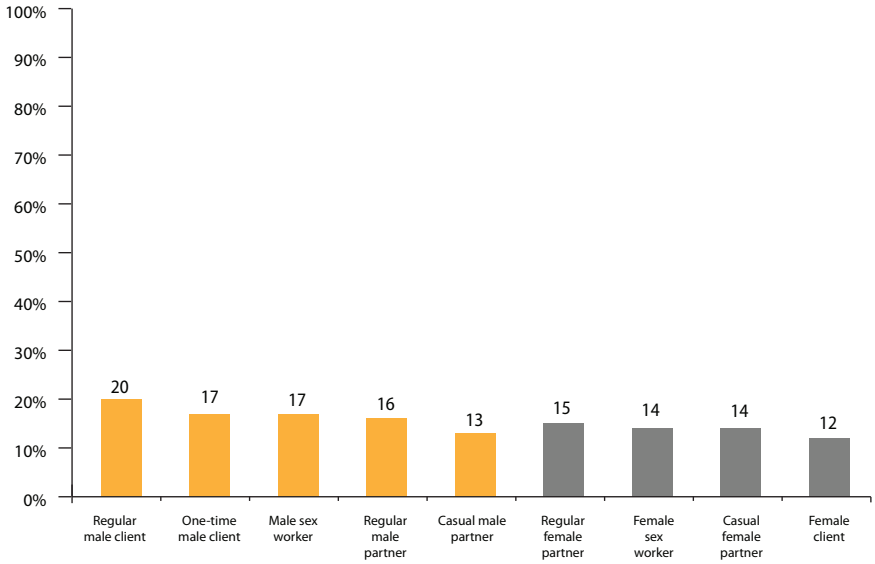
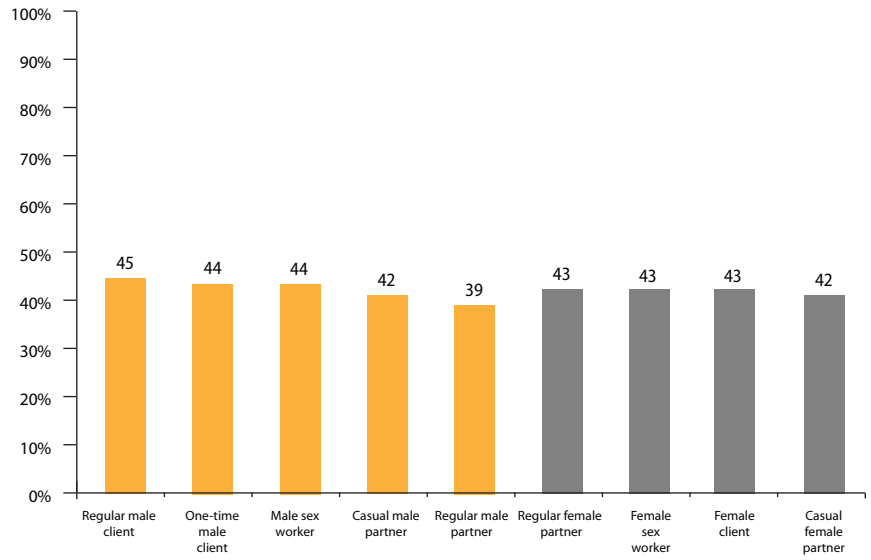


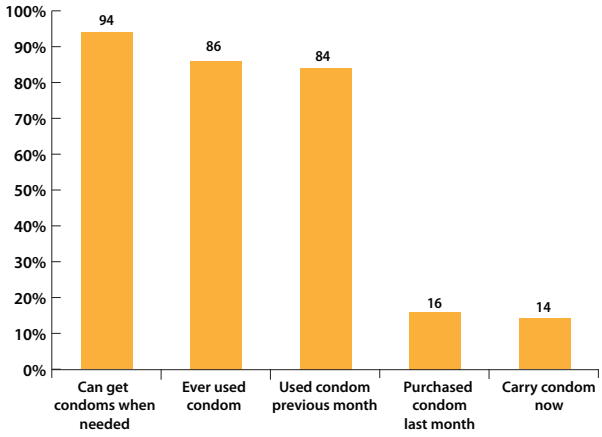
FIGURE 16: PROPORTION OF SEX ACTS PROTECTED BY CONDOMS AMONG MSM IN THE PREVIOUS MONTH, BY TYPE OF PARTNER



9.2. **WOMEN**

Like the MSM surveyed, nearly all women (94%) reported that condoms were easy to acquire, but few (16%) had purchased condoms in the previous month. Less than half (43%) of women reported that they had received condoms monthly from outreach workers, suggesting that the low reporting of condom purchase was not due to the supply from prevention programs. A surprisingly high number of women (approximately 1 in 7) reported that they had never used a male latex condom in their lifetime.

FIGURE 17: ACCESS TO, AND USE OF CONDOMS BY WOMEN



Condom use by women at last sexual encounter varied from 71% with an unknown client to 42% with their regular partner (Table 12).

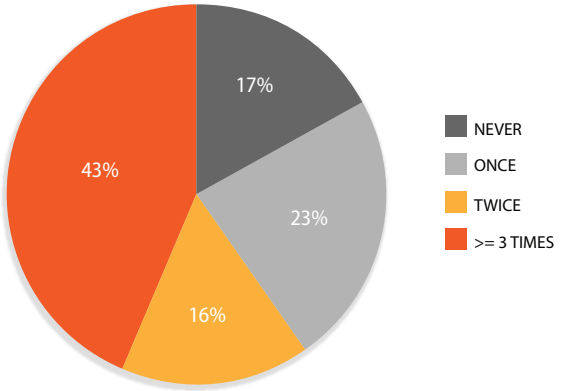
TABLE 12. CONDOM USE AT LAST SEX BY WOMEN, BY PARTNER TYPE

One time client	71%
Regular client	63%
Sex worker	64%
Casual partner	64%
Regular partner	42%

A much smaller proportion of women reported having always used condoms in the past month. Indeed, consistent use of condoms ranged from 30% with regular clients to 7% when women purchased sex for their satisfaction. Only 7% of the women had always used condoms when having anal sex with a man they had paid for sex in the past month.

Using the same approach as for MSM, we estimated the percentage of sexual encounters among women that had been protected by condoms during the previous month. Based on this calculation, it is estimated that the proportion of all sexual encounters protected with condom ranged from 28% when

FIGURE 18: PERCENTAGE OF WOMEN THAT RECEIVED CONDOMS FROM OUTREACH INTERVENTIONS IN THE PREVIOUS THREE MONTHS

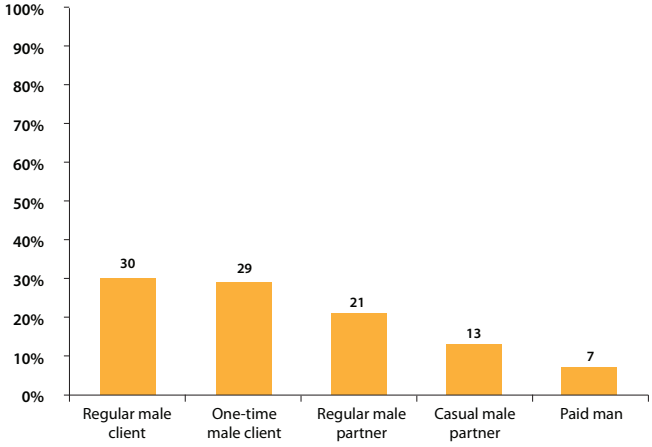


purchasing sex to 52% with a one-time male client.

Women did not use condoms more often during anal sex than during vaginal sex. A quarter of the women reported using female condoms and finding them acceptable.

Women reported that they proposed condoms to 67% of their clients, however 42% of women reported having had clients in the previous month that refused to use a condom. When women proposed a condom to their one-time clients, a condom was used in 76% of the cases. When they did not propose a condom to

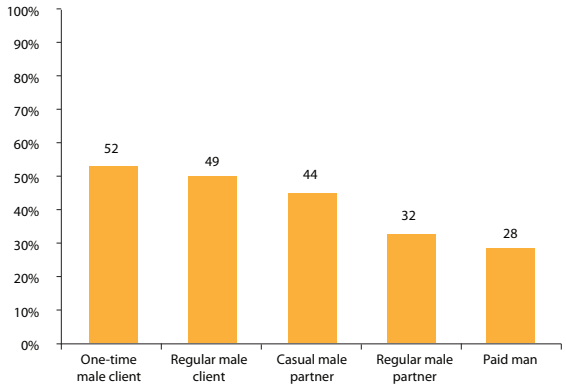
FIGURE 19: WOMEN REPORTING CONSISTENT CONDOM USE IN THE PREVIOUS MONTH, BY TYPE OF PARTNER



their client, a condom was used in 15% of the sexual encounters. Findings were similar regarding condom use at last sex with clients; 70% had proposed using condoms to their last one-time client. Among women who had proposed condom to their last client, 85% had used a condom compared to 12% among those who did not propose condom.

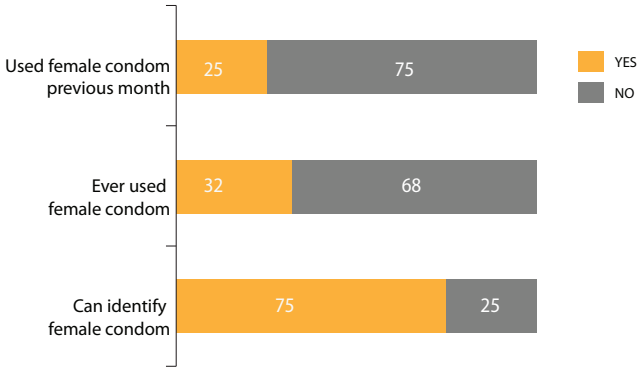
Despite the relatively low frequency of condom use and their moderate number of partners, 18% of women reported having experienced some condom breakage in the previous month. In addition, 53% of women reported having used two condoms at a time in the previous month. Such a practice increases condom breakage. Consistent with findings from other behavioral surveys, women who reported that they had used two condoms at a time in the previous month were more likely to have experienced condom breakages (26%) than women that did not (6%).

FIGURE 20: PROPORTION OF SEX ACTS PROTECTED BY CONDOMS AMONG WOMEN IN THE PREVIOUS MONTH, BY TYPE OF PARTNER



When shown a female condom, 75% could identify what it was. Thirty-two percent (32%) had never used a female condom in their lifetime and 25% had used a female condom in the past month. Among those who ever used female condoms, 10% reported disliking it. Those who disliked female condoms reported that price and access to female condoms were not issues. Of those who used female condoms, 67% complained about the noise that female condoms make during intercourse; 33% found them difficult to insert; and 33% reported partners' complains.

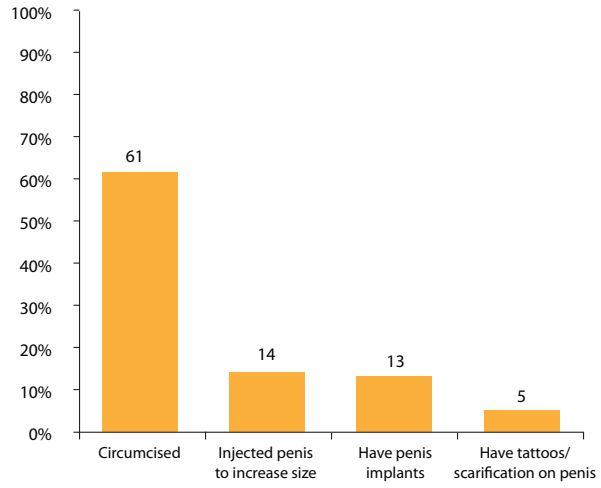
FIGURE 21: FEMALE KNOWLEDGE ABOUT, AND USE OF FEMALE CONDOMS



10 PENILE MODIFICATIONS

As described in other studies,[5] self-report of circumcision may lack validity because people may not understand the question. More than half (61%) of the MSM surveyed reported that they had been circumcised – an extremely high number in a country where circumcision is not a widespread ritual.[6] It should also be noted that the term circumcision may also have been interpreted as the recent spread of non-traditional types of circumcision and of foreskin laceration.[7] It is likely that the terminology was misunderstood and therefore the prevalence reported here should be taken with caution.

FIGURE 22: MSM REPORTED PENILE MODIFICATIONS



The practice of penile modification was introduced to PNG in the last couple of decades and has grown in popularity and practice across age groups and geographic regions. The intention of increasing penis size either through injecting substances into the penis, or inserting objects such as pieces of plastic, present a heightened risk for HIV transmission as well as compromising the reproductive health of the bearer. Objects inserted into the penis increase HIV transmission by causing trauma to the vaginal or the rectal wall; and self-inflicted injections may have not been performed with sterile equipment.

One in every 7 (approximately 22%) MSM reported having penile modifications (including penis implants) which were associated with condom breakage and were likely to increase tearing during intercourse, therefore contributing to increased HIV transmission. Fourteen percent (14%) of MSM reported having injected their penis, 13% reported bearing penile implants, and 5% had tattoos or scarifications on the penis.

[5] Weiss HA, Plummer ML, Changalucha J, Mshana G, Shigongo ZS, Todd J, et al. Circumcision among adolescent boys in rural northwestern Tanzania. Trop Med Int Health. 2008; 13: 1054-61

[6] Murdock GP. Ethnographic atlas. Pittsburgh: University of Pittsburgh Press, 1967. p.124

[7] National Sex and Reproduction Research Team, Jenkins C. National study of sexual and reproductive knowledge and behaviour in Papua New Guinea. Goroka: Papua New Guinea Institute of Medical Research, 1994:148

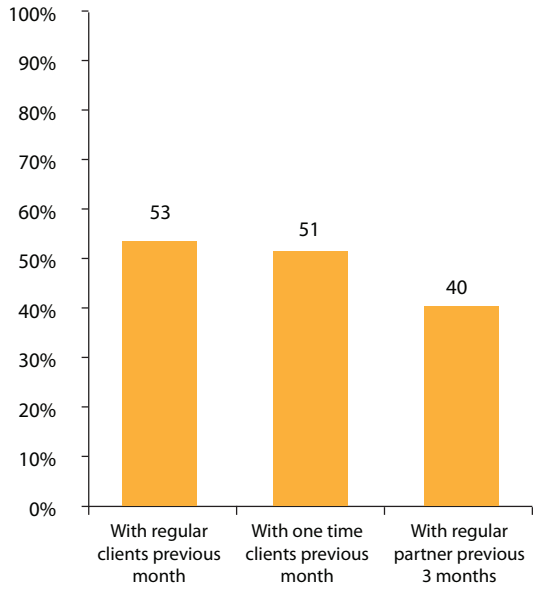
11 ANAL SEX IN HETEROSEXUAL ENCOUNTERS

Previous surveys have reported that women involved in transactional sex and men from the general population were having anal sex. Heterosexual anal sex was unusually common among both MSM and women surveyed and is likely a significant driver of the HIV epidemic in POM given the low level of condom use.

More than half of the women reported that they had anal sex with one-time (51%) and regular clients (53%) in the previous month. All together, 57% of women reported having had anal sex with a client in the previous month.

Among the women who had purchased sex in the past month, 20% reported that they had paid for anal sex with their partners. However, only 7% had always used condoms when paying for anal sex. Among the 71% of MSM who reported that they had sex with a woman in the past month, 76% had anal sex with their female partners. Overall, 54% of MSM had anal sex with a woman in the previous month.

FIGURE 23: WOMEN REPORTING ANAL SEX, BY TYPE OF PARTNER



12.1. **MSM**

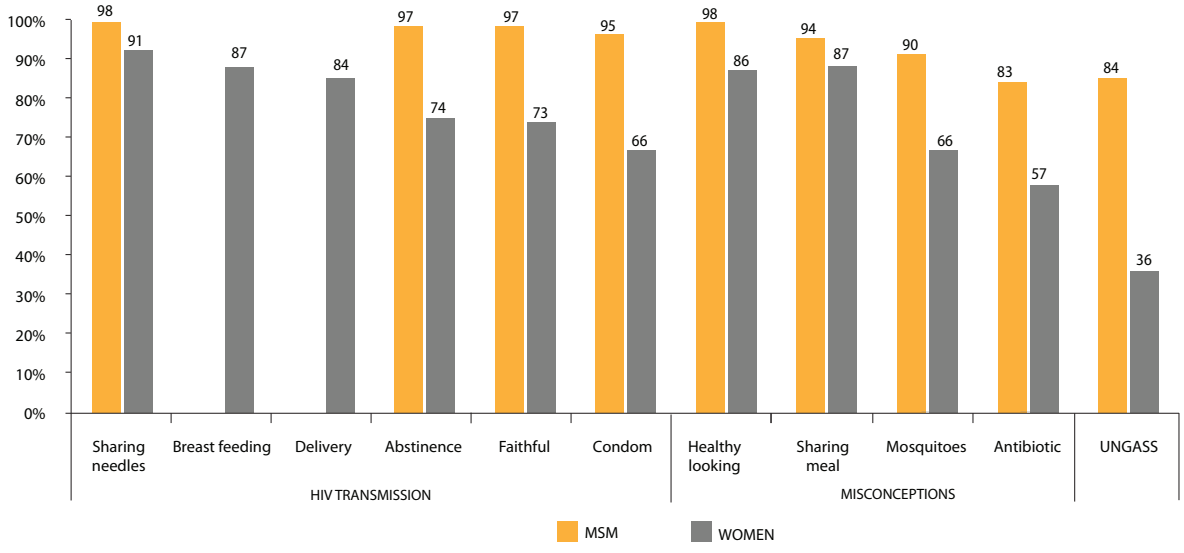
MSM surveyed had a very high level of knowledge about HIV transmission: 95% to 98% of MSM knew the modes of transmitting and preventing HIV. Some MSM had misconceptions about HIV transmission, however; 10% of MSM believed that HIV could be transmitted by mosquitoes and 17% believed that taking of antibiotics after sex would protect them from HIV infection.

The United Nations General Assembly Special Session (UNGASS) on HIV/AIDS composite indicator, which identifies the percent of respondents who both correctly identify ways of preventing transmission of HIV and reject major misconceptions about HIV transmission, was very high among MSM (84 %).

This high level of knowledge was likely encouraged by the strong cohesion within the MSM population that was observed during data collection, as well as a higher level of education than female respondents.

Overall, 95% of MSM had received any information about HIV. Nearly all MSM reported that they received information from a variety of sources, suggesting that MSM were actively seeking information about HIV.

FIGURE 24: KNOWLEDGE OF HIV TRANSMISSION



12.2. **WOMEN**

Given the extent of the HIV epidemic, the proportion of women who could identify HIV transmission routes and how to prevent infections was moderate. While 91% of women knew that HIV can be transmitted by sharing tainted needles and about the risks of breast-feeding (87%) and delivery (84%), an insufficient number (66%) knew that condoms prevent HIV transmission when used correctly.

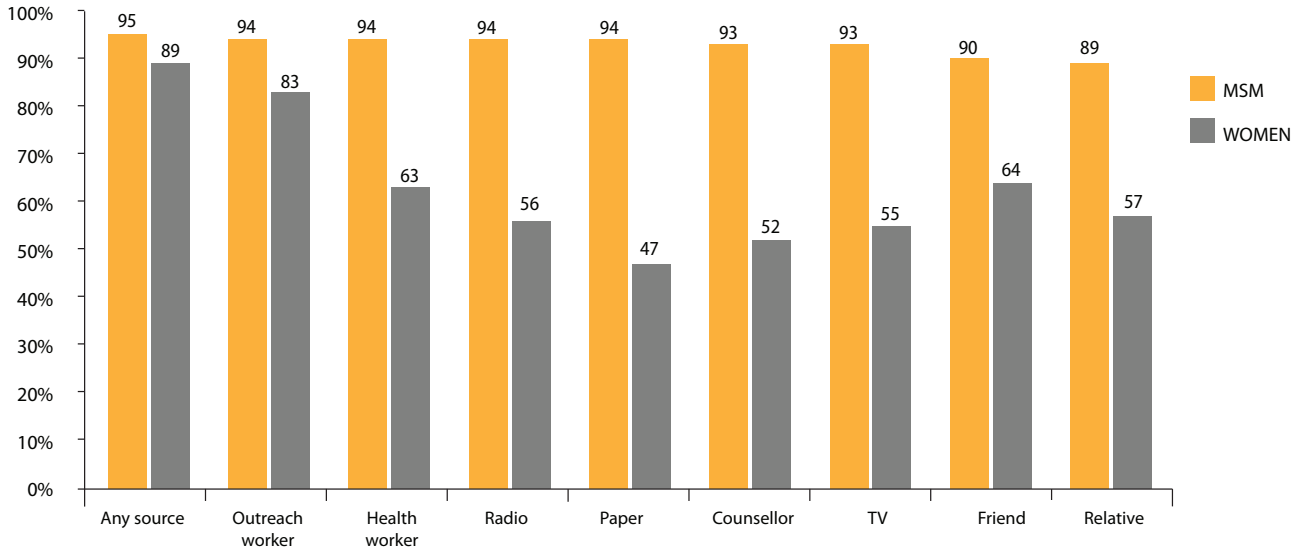
The responses of women suggest that prevention messages have focused on mother-to-child transmission and partially neglected the means of prevention for sexually active individuals. This low level of knowledge about the preventative effects of condoms further strengthens the case for re-prioritization within information campaigns.

Some misconceptions about HIV transmission leading to discrimination against PLHIV persist among women. Thirteen percent (13%) reported that sharing a meal with a PLHIV could infect them and 14% believed they could identify uninfected people by their healthy appearance. More than a third of women (34%) believed they could be infected by mosquito bites and 43% believed that taking antibiotics after sex would protect them from HIV.

As a result, the UNGASS composite indicator was low among women surveyed (36%). The limited knowledge of the protective effects of condoms was particularly worrying. Women who knew that condoms can prevent sexual transmission of HIV had used condoms in 56% of their sexual encounters, while women that did not know of this effect only used condoms in 44% of their sexual encounters.

Overall, 89% of the women reported having ever received information on HIV. The primary channel by which women had received information was through face-to-face meetings: 83% had received information from an outreach worker; 64% from a friend; and 63% from a health worker. Written documents were the least effective medium (47%) for reaching women with information about HIV.

FIGURE 25: SOURCES OF INFORMATION ABOUT HIV



13.1. MSM

During the survey, MSM were asked to indicate if they were currently experiencing the symptoms of common STIs or if they experienced those symptoms in the previous year.

STIs investigated among MSM during the survey were different from those investigated among female respondents. Among men, infections with chlamydia and/or gonorrhea cause pain during urination (dysuria) and genital discharge, which are more specific than the symptoms generated by these pathogens among women.

Forty percent (40%) of MSM reported that they had experienced STI symptoms in the previous year; 21% had symptoms at the time of the interview. Genital symptoms were more common than rectal symptoms; 12% of MSM reported that they had genital ulcers in the previous year; 4% reported anal ulcers; and 5% reported anal discharge during that period.

During the most recent episode of STI symptoms in the previous year, 71% of MSM reported that they had visited a health professional; 15% of MSM self-treated; 9% were not treated; and 5% sought advice from other sources. Seventy-one percent (71%) of MSM that visited a health professional had a genital examination, while 26% had a rectal speculum examination. Only 39% of MSM reported to the health professional that they had sex with men, however, meaning that a high proportion (85%) of those who reported their sexual orientation received an anal speculum examination. MSM reported less discrimination from health care providers than women: 6% of MSM were denied treatment in the previous year compared to nearly half (49%) of women.

Among those who received treatment for STIs in the past year, 85% of MSM took their treatment; 69% had their symptoms resolved; 34% informed their male regular partner; but only 14% informed their female regular partner. Most MSM (57%) reported that they attended a STI clinic in the previous three months and 10% had consulted monthly. However, those who had consulted regularly reported a higher prevalence of STI symptoms at the time of interview. This finding highlights the failure to control STIs through clinical services.

FIGURE 26: STI SYMPTOMS REPORTED BY MSM

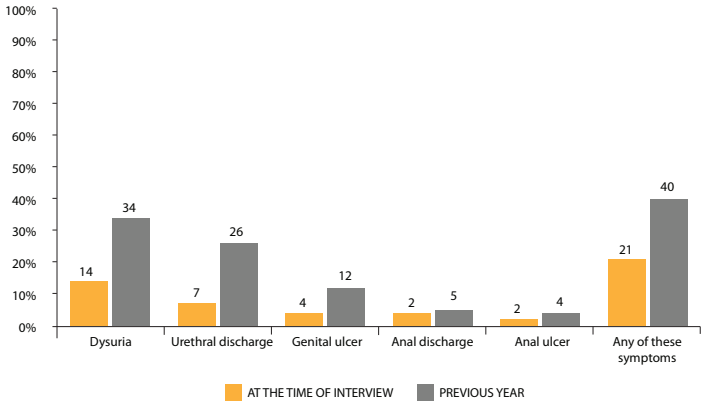


FIGURE 27: HEALTH CARE EXPERIENCE REPORTED BY MSM WHO CONSULTED STI CARE PROVIDERS IN THE PREVIOUS YEAR (n=97)

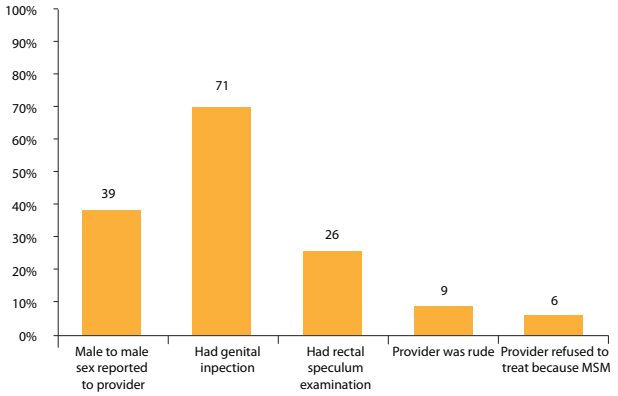
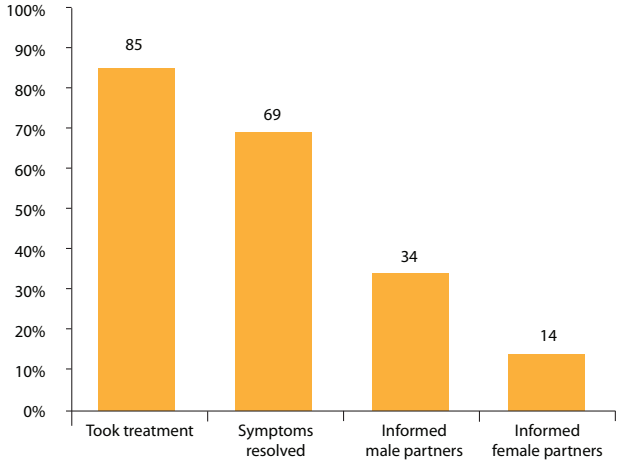


FIGURE 28: ADHERENCE TO TREATMENT, SYMPTOM RELIEF AND PARTNER REFERRAL AMONG MSM TREATED FOR STI LAST YEAR



13.2. **WOMEN**

Women surveyed were asked to report STI symptoms that they had experienced in the previous year, as well as those that they were experiencing at the time of the interview. The survey collected information about the symptoms of ulcerative STIs and rectal infections, but did not include the most frequent STIs (including chlamydia and gonorrhea) because of a lack of specificity of those symptoms among women. Therefore, the estimated prevalence of STIs among women surveyed is likely to be significantly underestimated.

Overall, 33% of women reported having had an ulcerative STI or rectal infection in the previous year, including 17% of women who experienced symptoms at the time of interview. In the previous year, 16% of women had experienced anal discharge and 11% reported having anal discharge at the time of interview. This finding corroborates the high prevalence of anal intercourse reported by women and described elsewhere in this report. In addition, 9% of women reported having had a painful anal ulcer, which may include anal fissures resulting from violent anal intercourse.

The most frequent STI symptom reported by women was a painful vaginal ulcer: 22% of women reported experiencing this symptom in the previous year and 7% of women reported the symptom at the time of the interview. It is likely that these symptoms are related to herpes simplex infections. HSV-2 and HIV-1 are synergistic infections, that is to say, co-infections with those two pathogens increases viral shedding and transmission of both pathogens.[8] HIV co-infections could therefore explain the high prevalence of symptomatic episodes of HSV-2. The prevalence of non-painful genital ulcers (i.e. syphilitic ulcers) is noteworthy and may require strengthening of syphilis control programs, especially given that many intravaginal ulcers may have been unnoticed and unreported.

More than half (72%) of the women reported that during the previous year they had consulted an STI care provider. During their most recent visit, 76% of women had a genital inspection; 70% a speculum examination; and 71% had reported to the physician that they sold sex. Of those seeking care, nearly half of the women (49%) reported that a physician had denied treatment in the previous year because they sold sex. These findings suggest that continuous training and mentoring of STI care providers is needed and should include both STI management and ethics.

FIGURE 29: STI SYMPTOMS REPORTED BY WOMEN

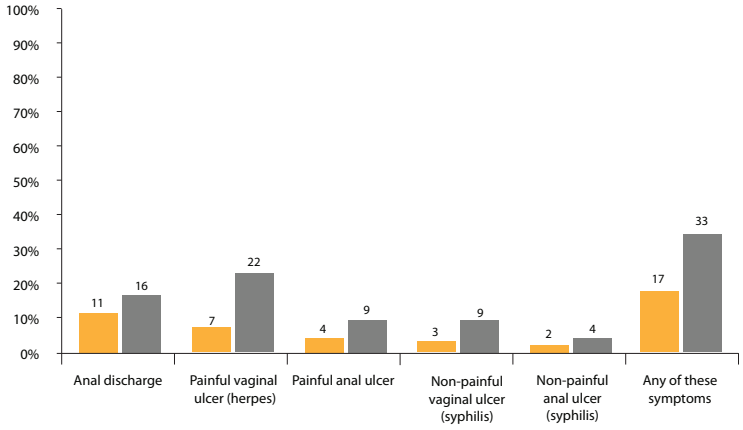
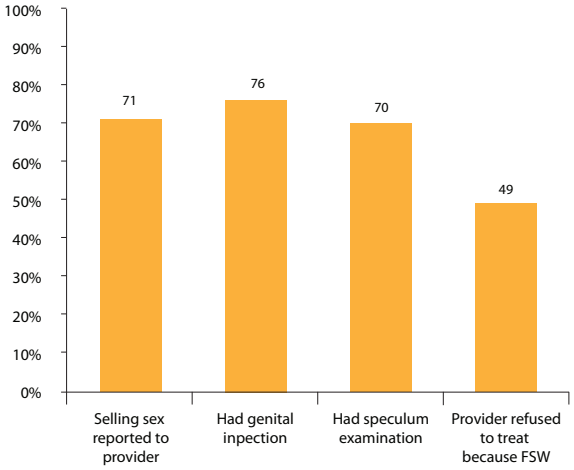


FIGURE 30: HEALTH CARE EXPERIENCE REPORTED BY WOMEN WHO CONSULTED STI CARE PROVIDERS IN THE PREVIOUS YEAR (n=89)



As a result of discrimination, 36% of the women reported that they avoided seeking care in symptomatic episodes during the previous year.

Most women (58%), however, reported that they attended a STI clinic in the previous 3 months and 26% had consulted monthly. Like MSM, however, women who had consulted regularly had a higher prevalence of reported STIs symptoms at the time of interview.

[8] Corey L. Synergistic Copathogens — HIV-1 and HSV-2. N Engl J Med 2007; 356:854-856.

14 USE OF **INTOXICANTS**

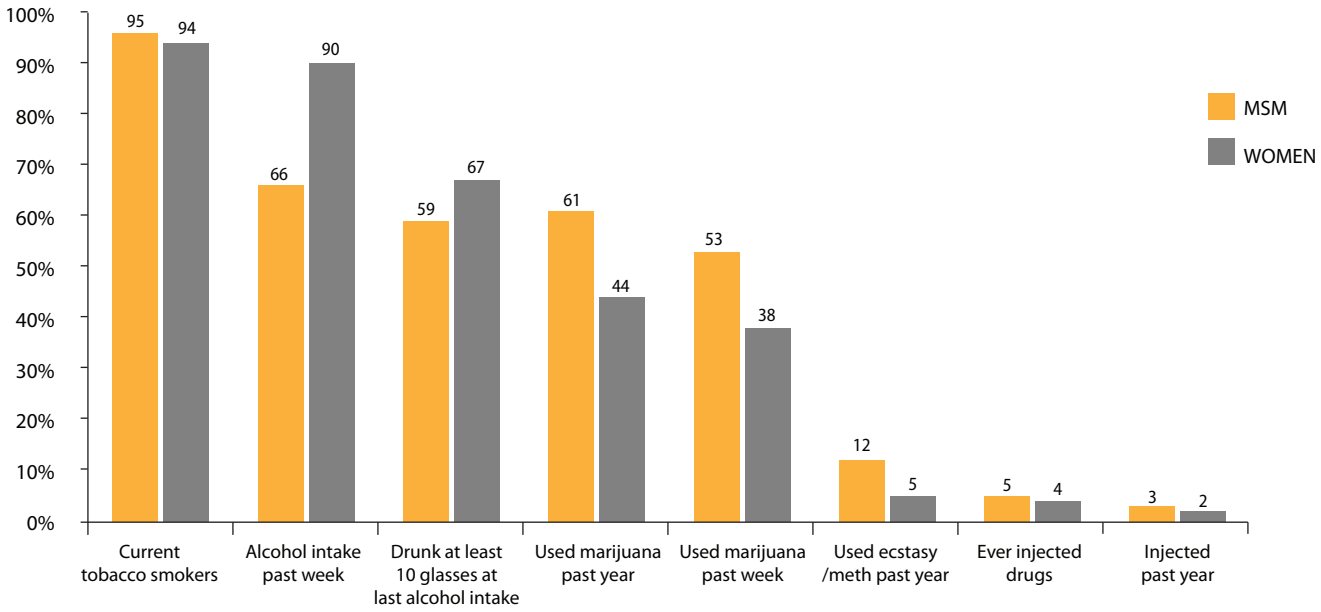
The use of intoxicants such as alcohol and marijuana is know to be associated with unprotected sexual activity and acts of sexual violence, and both of these drugs are available widely and used extensively among MSM and women.

MSM and women drink alcohol on a regular basis and most report drinking large quantities of alcohol; 90% of women (66% of MSM) reported that they consumed alcohol in the previous week and 67% of women (59% of MSM) reported that they consumed at least 10 glasses of alcohol at their most recent intake. Thirty-eight percent (38%) of women had drunk at least 20 glasses at their most recent intake.

Consumption of marijuana was also common among MSM and women. More than half (53%) of the MSM surveyed had smoked marijuana in the previous week; 42% of those MSM had smoked marijuana daily. Thirty-eight percent (38%) of women smoked marijuana in the previous week.

Amphetamine type stimulants were available and used by some of respondents. Injection drug use has not yet been recognized as an important factor in the transmission of HIV in PNG, however both MSM and women reported this behavior although at lower levels. In the past year, 12% of MSM (5% of women) reported that they had used methamphetamines and 3% of MSM (2% of women) had injected drugs, including a small proportion of active injectors.

FIGURE 31: MSM AND WOMEN REPORTING USE OF INTOXICANTS



Most MSM and women were contacted by outreach workers in the previous three months. Demand for STI services among MSM and women was high but referral did not lead to clinic visits if no referral card was given. About 40% of MSM and half of the women were tested for HIV in the previous year.

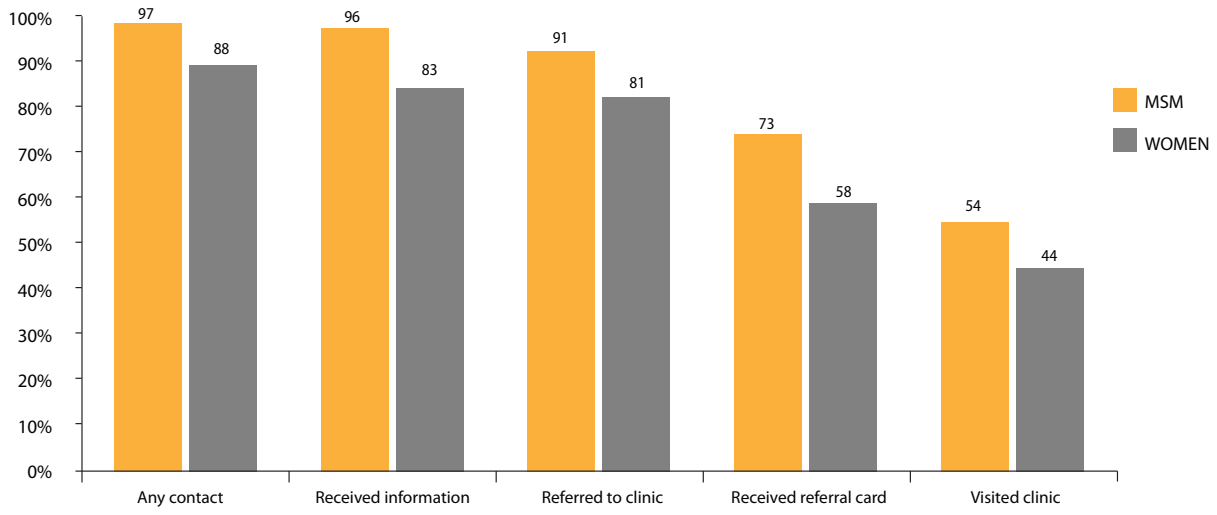
15.1. **MSM**

Almost all MSM (97%) reported having been contacted by an outreach worker in the previous three months and most of those contacted (94%) were referred to medical services. However, approximately 20% of those referred did not receive a referral card and only 54% visited a clinic following referral.

Whether they were referred or not, 43% of all MSM surveyed visited a clinic for any reason in the previous 3 months. In the previous three months, 26% of MSM had visited a STI clinic; 24% consulted for general health concerns; and 22% sought HIV counseling and testing services. The prevalence of TB in our sample (13%) is noteworthy and consistent with that reported by women.

Nineteen percent (19%) of MSM did not know where they could be tested for HIV and 40% of MSM had never been tested for HIV. Of those tested, 44% of the respondents reported having received their HIV test results in the past year.

FIGURE 32: COVERAGE AND UPTAKE OF OUTREACH INTERVENTIONS IN THE PREVIOUS THREE MONTHS



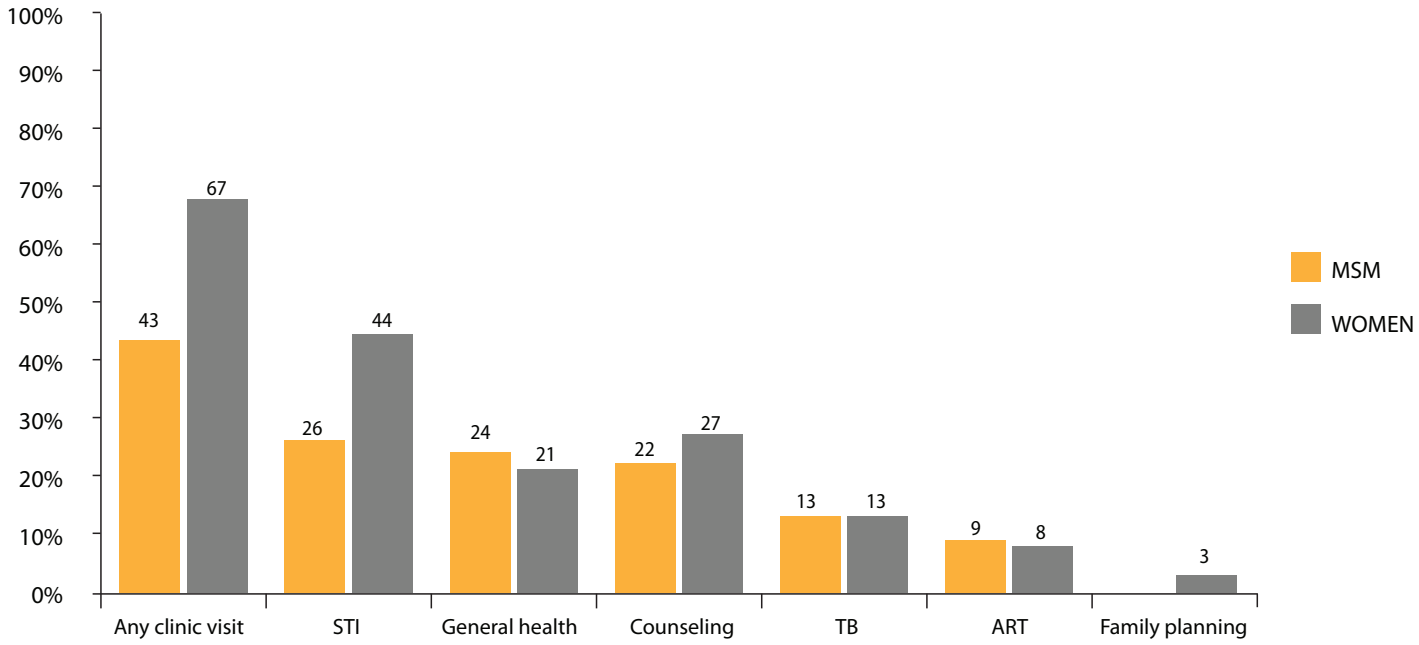
15.2. **WOMEN**

Among the women who participated in the survey, 88% reported having been contacted by an outreach worker in the previous three months. Almost all of those contacted (81%) were referred to medical services. However, almost a third of those referred did not receive a referral card and less than half (44%) visited a clinic following referral.

Whether they were referred or not, 67% of all women surveyed visited a clinic for any reason in the previous three months. Overall, 44% of women had visited a STI clinic in the previous three months. This high demand for STI services suggests that STI prevalence is extremely high. As noted earlier, the symptoms collected in the present survey excluded the most common STIs. Counseling and testing was the second most commonly used service by women (27% of women). Only 13% of the women had used family planning services. As with MSM, the prevalence of TB (13%) is noteworthy.

Many women (13%) did not know where they could be tested for HIV; 32% of women had never been tested for HIV. Of those tested, about half (49%) of the respondents had received their HIV test results in the past year.

FIGURE 33: MEDICAL SERVICES USED IN THE PREVOIUS THREE MONTHS



16 ESTIMATED **HIV PREVALENCE**

Although the USAID/FHI BSS did not include a biological component and respondents were not tested for HIV, MSM and women were asked questions that provide some insight into the HIV prevalence among those populations.

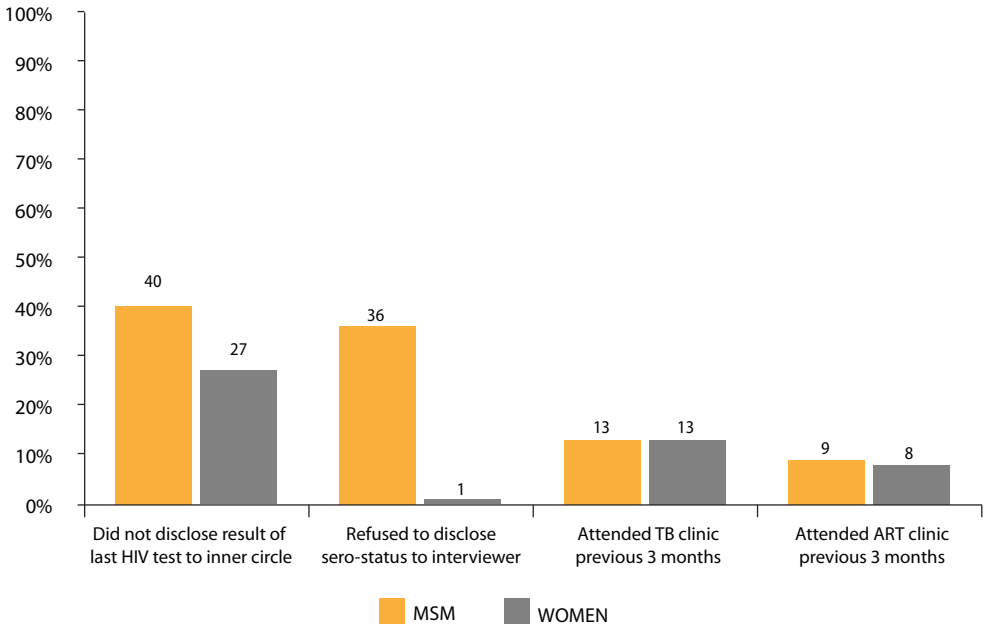
More than half of MSM (59%) and women (68%) reported that they had been previously tested for HIV.

Among MSM that had been tested: 60% reported being HIV negative; 4% acknowledged being infected with HIV; and 36% refused to disclose their tests results. Consistent with this reporting, 40% of the MSM had not disclosed their test results to their inner circle.

The prevalence of HIV among MSM was at least 9%, corresponding to the proportion of MSM who had attended an ART clinic in the past 3 months. Based on this and the percentage of MSM that had not disclosed their test results to their inner circle, it is likely that the prevalence of HIV among MSM in POM is within the range of 9% to 40%.

Among women that had been tested for HIV: 97% reported being HIV negative; 2% acknowledged being infected with HIV; and 1% refused to disclose their tests results. However, 27% of the women had not disclosed their tests results to their inner circle. Based on this and the percentage of women that had not disclosed their test results to their inner circle, it is likely that the prevalence of HIV among women in POM is within the range of 8% to 27%.

FIGURE 34: HIV STATUS AMONG MSM AND WOMEN SURVEYED



17 CONCLUSION

An important goal of the USAID/FHI BSS was to assess the outcomes of HIV outreach and prevention efforts. To help ascertain the impact of these efforts, data collected from the BSS was used to generate a quantitative variable based on the number of services used by MSM and women in the previous three months, including:

- Sought HIV counseling and testing
- Attended an STI clinic
- Received free condoms
- Observed a condom demonstration
- Received counseling with an FHI Love Story book
- Received counseling using risk cards

When compared against the preventative behavior (indicated by the use of condoms with different partners) of BSS participants, a dose effect response was detected.

FIGURE 35: DOSE RESPONSE EFFECT AMONG WOMEN: CONDOM USE BY NUMBER OF PREVENTION SERVICES RECEIVED IN THE PREVIOUS THREE MONTHS

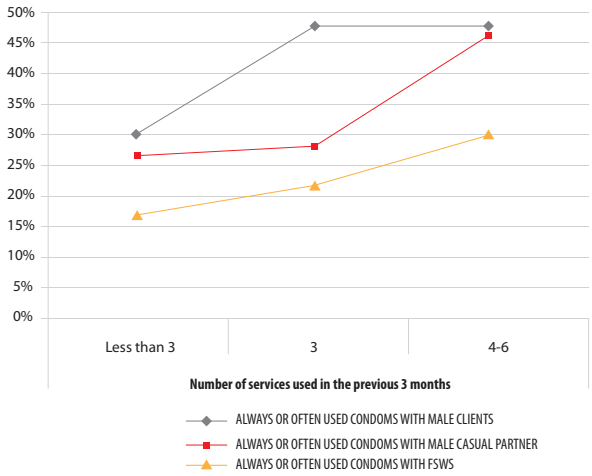
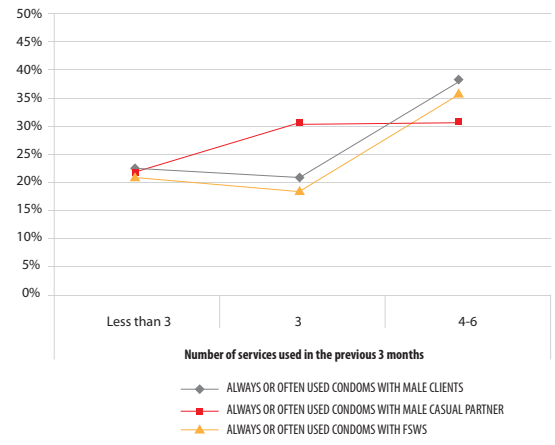


FIGURE 36: DOSE RESPONSE EFFECT AMONG MSM: CONDOM USE BY NUMBER OF PREVENTION SERVICES RECEIVED IN THE PREVIOUS THREE MONTHS



Although these results should be considered carefully within the broader context of service provision and the other information made available through the USAID/FHI BSS, nonetheless there is reason to believe that increased service use tends to correspond with safer sexual behavior by both MSM and women.

17.1. RECOMMENDATIONS

Based on the results of this survey, the USAID/FHI BSS surveillance team proposes the following un-prioritized list of recommendations:

- Information about HIV transmission in communication campaigns should focus on the protective effect of condoms.
- Train risk groups on condom use through hands-on sessions in order to minimize the risk of condom breakage.
- Information on HIV should seek to demystify the belief that mosquitoes are vectors for HIV and that antibiotics protect from HIV transmission.
- As little sense of community was observed during data collection among women (implying that women do not identify as, nor have a community of, sex workers), interventions for women should use outreach as opposed to peer-led strategies.
- Avoid written leaflets for women, but rather develop appropriate communication tools for a largely illiterate population.
- Continuous training, supervision, and mentoring to STI providers is required to increase the quality of STI services and minimize discrimination against MARPs.
- Family planning services should be promoted and integrated into STI services in order to minimize unplanned pregnancies.
- Promote female condoms among both men and women.
- Promote the use of water-based lubricant for anal sex.
- Provide counseling and self-help groups for survivors of violence.
- Establish groups to legally represent survivors of physical and sexual abuse.
- Provide counseling for substance users.
- Monitor trends in injection drug use and assess the existence of injection drug user networks.

17.2. **NOTE ON THE** INTERPRETATION OF **BSS DATA**

Data presented here should be interpreted with caution and the hypothesis' unveiled in this report require further analysis using qualitative methods for a deeper understanding of the results. There were substantial inconsistencies associated with repeated questions using different timeframes, which suggests an important recall bias. Women seem to have been inhibited by questions asked by women who they may have perceived as judgmental. To eliminate these inhibitions in future surveys, women should be offered the choice of either MSM or women as interviewer.

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