Myanmar Integrated Biological and Behavioural Surveillance Survey
&
Population Size Estimates among Men Who Have Sex with Men (MSM)

2015

National AIDS Program
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Executive Summary

This report shares the results of the 2015, Integrated biological and behavioral surveys (IBBS) of men who have sex with men (MSM) conducted in five sites in Myanmar: Yangon, Mandalay, Monywa, Pathein, and Pyay. This report presents as well, the methodology, success of sampling of the survey and some conclusions. The annexes of the full report include profiles (i.e. key indicators) for each site as well as complete tables for all variables included in the survey questionnaire.

The objectives of the survey were to track the epidemic using behavioral risk, experience with stigma and discrimination and HIV seroprevalence markers and assess the progress of the response in terms of utilization of prevention, care and treatment services.

The IBBS utilized respondent driven sampling (RDS) a chain referral approach to sampling well suited for obtaining more representative samples of hard to reach and hidden populations. This survey represents the second time the National AIDS Programme (NAP) and its partners used RDS to collect sero-prevalence measures of HIV and key behavioural data among MSM in Myanmar.

This IBBS also incorporated population size estimation methods to generate robust measures of the number of MSM. Population size data are critical inputs for both understanding the trajectory of the epidemic as well as for programme planning (i.e. budgeting and target setting).

The eligibility criteria for the survey were biological males, fifteen years and older, who have anal sex with another man in the six months, and currently lived in the survey city

Overall HIV prevalence among MSM ranged from >20% in Yangon (27%) and Mandalay (22%) to (6-7%) in Monywa, Pathein, and Pyay. More than half of MSM in all sites were <25 years old. The median age of sexual debut for respondents was between 16-18 years old. And while a majority of respondents' first sexual partner was male, in Monywa and Pathein, more than 60% of respondents had ever had sex with a female partner, compared to only about one quarter in Yangon and Pyay, and one third of MSM in Mandalay.

Three distinct group identities comprise the MSM community: Apwint (open), Apone (hidden), Tha Nge. Self-identified members of the community reported different patterns of gender identity, gender preference for sexual partners, usual anal sex position, and numbers of casual sex partners. We found differences in risk characteristics by group identity to be consistent with different levels of HIV prevalence among each sub-group of MSM. For example, in Yangon, 62% of those who identified as Apwint were HIV positive compared to only 33% of those who identified as Apone, and 4% of those who identified as Tha Nge. Similarly, in Pathein 18% of those who identified as Apwint were HIV positive compared to 7% of those who identified as Apone and 3% of those who identified as Tha Nge.

With respect to key global indicators on the effectiveness of the response, we found condom use at last anal sex with a man was high in Mandalay (92%) to moderate in Yangon (66%) and Pyay (69%). Contact with prevention programs (defined as receiving condoms from an outreach worker in the last 12 months and knowing a place for HIV testing) was highest in Pyay (93%) and Mandalay (80%), followed by Pathein (76%).

In contrast, prevention coverage was only 54% in Yangon and Monywa. Another critical indicator is the proportion of MSM who have been tested for HIV in the last year and know their status. In Yangon, and Monywa slightly less than 40% of respondents had been tested in the last year and knew their results. In Mandalay, Pathein, and Pyay, the proportion was higher (between 60-65%).

Through a process of triangulating multiple methods and review by local stakeholders, the consensus population size estimates (PSEs) for MSM in each site were obtained. Based on the survey site specific PSEs, the national MSM PSE was defined in the large PSE workshop with all the stakeholders using the township scoring method. The final calculated consensus on national MSM PSE was estimated at 252,000 for all types of MSM. Considering half of them to be reachable MSM (MSM who can be reached by HIV response programme), the estimated number for reachable MSM became 126,000.

Results from the 2015 MSM IBBS underscore the importance of the MSM community to prevention and control of the HIV epidemic in Myanmar. These data provide important insight to service providers about how-to tailor prevention messages and services to better meet the needs of the diverse MSM community. Triangulating these data with other types of surveillance data and programme service data is essential for interpreting and applying these data effectively.

Abbreviations

AIDS	Acquired Immune deficiency syndrome
BSS	Behavioural surveillance survey
DIC	Drop-in-center
FHI-360	Family Health International - 360
FSW	Female sex worker
GARPR	Global AIDS response and progress report
HIV	Human immunodeficiency virus
HSS	HIV sentinel surveillance
IBBS	Integrated biological and behavioural surveillance survey
IC	Informed consent
MMK	Myanmar kyats
MSM	Men who have sex with men
NAP	National AIDS Programme
NGO	Non-governmental organization
PSE	Population size estimates
PSI	Population Services International
PWID	People who inject drugs
RDS	Respondent driven sampling
RDS-A	Respondent driven sampling Analyst
SS	Successive sampling
STD	Sexually transmitted disease
STI	Sexually transmitted infection
TOP	Targeted outreach program

I. Background

The integrated biological and behavioural survey (IBBS) is a critical tool utilized by the Government of Myanmar to respond effectively to the HIV and AIDS epidemic. With other key components of the second-generation surveillance system, such as HIV sentinel surveillance (HSS) and HIV case reporting, the IBBS provides essential information to explain the magnitude and determinants of the HIV epidemic in a country, track the epidemic and monitor and evaluate the effects of the national response. In particular, the second-generation surveillance system in Myanmar focuses largely on key populations at high risk where transmission of HIV is concentrated.

By adopting the respondent driven sampling (RDS) method, IBBS seeks to provide a more representative picture of risk and vulnerability among key populations such as men who have sex with men (MSM), female sex workers (FSW), and people who inject drugs (PWID). Special sampling methods, such as RDS, are well-suited to capture more representative samples of key populations who are highly mobile, may not always be present at accessible physical venues, and/or who wish to remain hidden due to stigma and discrimination.

The IBBS is an iterative process with refinement of methods and logistics over time and adapting them to the specific needs of the situation to ensure high quality strategic information is gathered to guide national policy and programming. Prior to the current round of surveys, the RDS method has been used successfully in Myanmar to sample PWID (2007 and 2014), FSW (2008), and MSM (2009).

The aims of the IBBS are to:

- Estimate the prevalence of HIV
- Measure levels of HIV-related risk behaviours
- Determine the level of HIV-related knowledge
- Assess the level of uptake of HIV-related prevention services
- Monitor changes in HIV prevalence, HIV-related risk behaviours, service uptake and HIV- related knowledge over time
- Estimate the size of key populations

This report shares the results of the IBBS of MSM conducted in 2015 in five IBBS sites (two cities and three townships) provides key recommendations for using the results to strengthen the national strategic plan for HIV and AIDS.

II. Methodology

1. Survey scope

A. Eligibility criteria

The eligibility criteria for the 2015 MSM IBBS included biological males, fifteen years and older, who have anal sex with another man in the six months, and currently lived in the survey city. All respondents had to understand and answer the questionnaire in Myanmar language and be able to give informed consent at the time of participation in the survey.

B. Sampling methodology

The IBBS employed RDS as the method of recruiting survey participants. RDS is a chain referral recruitment method designed to represent the social network of a specified target population. Recruitment is controlled by limiting respondents to recruiting a fixed number of friends that meet the survey eligibility criteria to

participate in the survey. Recruitment must take place within a limited period of time and the resulting datasets are analyzed using statistical methods which adjust for the non-random method for selecting respondents.

C. Survey sites

The 2015 IBBS for MSM included 5 survey sites: Yangon, Mandalay, Monywa, Pathein, and Pyay. Sites were selected on the basis of having high or perceived increasing HIV prevalence, presence of high-risk behaviors, presence of an AIDS/STI team, offering general accessibility and security necessary for field work; and having reliable communication infrastructure. Yangon and Mandalay were also sites included in the 2009 MSM IBBS. See Annex 2 for a detailed description of the selected sites.

D. Sample size

The target sample size for each site was 400 eligible participants who completed both biological and behavioural components of the survey. Sample size calculations were designed to measure the proportion of MSM who reported condom use at last anal sex with another male with a maximum standard error of 0.05. Using an estimated level of condom use at last anal sex with another male at 70%, a sample size of 336 was calculated to obtain a maximum standard error of 0.05 with a conservative design effect of 4. Local stakeholders assessed a sample size of 400 as feasible and this would afford precise estimates for most critical variables.

2. Formative assessment and survey tools

A. Formative assessment

In each survey site, formative assessment was conducted to assess the feasibility of network sampling, identify the appropriate location of an RDS center, plan survey logistics, including safeguards for participants and team members, and prepare both the MSM community, program partners, and local authorities about the survey.

Some important findings were that network sizes were large enough to address Respondent Driven Sampling in all selected sites (medium network size varied 65 to 200) and estimated PSE from assessment indicated that required sample size could also be fulfilled. It suggested that main groups of MSM were divided as Apone, Apwit and Tha-Nge with some other small groups with high socialization among groups (58-96%). It also showed very high expected participation in the actual survey both for interview (90-100%) and blood test (73-95%) with the best time of day for data collection as in the morning/afternoon (74-95%), and preferred incentive was money (64-95%) with the amount varied between 3000-5500. Moreover, key informants who can provide relevant information were also identified during formative research.

B. Questionnaire development

The survey instrument was developed by a team of national and international experts, building on previous survey instruments used in the country and regionally. Survey instruments were developed in English, translated into Myanmar language, and back-translated into English to ensure fidelity to the intended question meaning. The survey team conducted pilot tests of the questionnaire to check for comprehension, use of appropriate terminology, and to test the skip patterns. Based on pilot testing results, the questionnaire was further revised, and these changes then translated, and back translated. See Annex 3 for the survey questionnaire.

C. Network size questions

Due to the importance of obtaining accurate network sizes from respondents to adequately adjust the results to account for the chain referral method of sampling, special attention was given to the questions used to determine the size of respondents' social networks. Network size questions were administered prior

to the start of the behavioural portion of the questionnaire to ensure as accurate a response as possible. Network size was obtained using a series of questions to help respondents report an accurate network size:

1601. How many men do you know who have sex with men in the past 6 months who you know and who know you?
1602. How many of those live in this town?
1603. How many of those have you seen in the past one month?
1604. How many of those were >15 years old

The question the survey intended to use as the measure of network size was 1604. During the data cleaning process some sites showed implausible values for the number of friends/acquaintances below age 15. Further exploration of how the network size questions were asked by interviewers, suggested that question 1603 would be a more reliable measure of network size. In addition, the network size distribution in several sites suggested that respondents gave crude or rounded responses. To further address the issue of inaccurate network size reported by respondents, the technique of 'imputed visibility' was used in all sites to smooth the network size distribution, (as measured by question 1603). This method accounts for error in respondents' self-reported network size using other data about the respondent such as the number of recruits of each respondent and the time to recruit. This approach can bring in outliers and deals with missing or invalid network sizes that may be given by some portion of respondents.[1]

3. Survey components

A. Overall participant flow

Upon arriving at the RDS center, potential participants were screened for eligibility; provided written or oral witnessed informed consent (IC) if they agreed to participate; completed an interviewer administered questionnaire; received pre-HIV test counselling; provided a venous blood specimen for biological testing; met with the coupon manager to receive their participation incentive and recruitment coupons; then returned to the lab technician/nurse for post-test counseling and their HIV test result. Any participant testing positive was referred for confirmatory testing and treatment. All persons presenting to the survey site were offered condoms and risk reduction materials, regardless of participation.

Full participation in the survey required between 50 to 100 minutes for each participant. The longest stage of the process was the interview, which took between 20-45 minutes depending on the sections of the questionnaire relevant to the experience of the respondent.

B. HIV testing procedures

Following the behavioural questionnaire, respondents who consented to give a biological specimen were seen by a trained laboratory technician or nurse. Venous blood was drawn from participants and separated into one aliquot used for on-site rapid testing for HIV and syphilis[2] and a second aliquot collected for quality control and off-site laboratory testing. Standard protocols following national guidelines for diagnostic rapid testing were followed, including confirmatory testing of all reactive specimens. Participants could receive post-test counseling and the result of their test on the same day, after meeting with the coupon manager and receiving instructions for recruiting other participants. Individuals with positive test results were referred to the nearest government STD/AIDS clinic. However, these results were not linked to personal identifiers, only a numerical ID.

[1] More information about the assumptions and methods for the imputed visibility technique are provided in McLaughlin KR, Handcock M, Johnston LG. Inference for the Visibility Distribution for Respondent-Driven-Sampling. JSM2015 – Social Statistics Section. Accessed on 6 June 2016 at http://www.stat.ucla.edu/~katherine.mclaughlin/JSMpaper_mclaughlin.pdf

[2] Results of biological testing other than HIV are not presented in this report.

C. Incentives

Respondents received 5000 Myanmar kyats (MMK) for completion of the survey and a secondary incentive of 1,500 MMK for each recruit who completed the survey. The amount of incentive was decided during consultation on results of formative research with all partners including key population networks.

4. Survey teams and RDS Center

A. Team composition

Each RDS center was staffed by a field team including a screener, coupon manager, 3-4 interviewers, laboratory technician, a data entry clerk, and a site manager. During operational hours all members of the team were present staffing the RDS centers.

B. Team training and field supervision

Seven days of training in Myanmar language was provided to all members of the field team. Training topics included a review of the RDS method, participant flow, ethics, respect and sensitivity in working with MSM communities, and specific training on each team member's responsibilities, e.g. interviewer training to review questions and properly complete data collection forms, laboratory procedures for the lab technician, etc.

In addition to an on-site manager at the RDS center during operational hours, teams maintained regular communication with central NAP survey managers. Through the survey period, three external field monitors visited sites at regular intervals to assess team performance and provide additional problem-solving support.

C. RDS centers

A single RDS center was located in each survey city. Houses or apartments in locations easily accessible to the target population were chosen as the location of the RDS centers. Each center had 5-6 rooms with which to accommodate waiting participants, private interviews, and confidential HIV testing and counseling. RDS Centers were intentionally not co-located within existing NGO facilities or public-sector services to minimize the selection bias of over-representation of those who were engaged with prevention services. Centers were open from 9 AM to 4 PM ,6 days a week.

5. Recruitment

A. Data collection period

In all sites, survey fieldwork began in mid-May 2015 and varied in duration to achieve the desired sample size from each site. The shortest period of recruitment took place in Monywa (6 weeks), and the longest recruitment period was in Mandalay (8 weeks).

B. Seed selection

During the formative assessment phase, potential seeds were identified by the field teams. Seeds were selected for diversity on the basis of the MSM types (Apwint, Apone, Than Nge), contact with the NGO program, and the ones with large network size. Each site identified four to five initial seeds to start the recruitment process. Seeds participated in the survey and were given recruitment coupons. After one week, some seeds were determined not to be productive at recruiting, and an additional one to three seeds were engaged. Table 1. summarizes the number of initial and additional seeds for each site.

C. Coupon and recruitment management

Each participant was allowed to recruit up to three additional participants using specially numbered recruitment coupons. Coupons remained valid for two weeks from the time they were issued. To participate in the survey, recruits had to come to the RDS center, present a valid coupon before its expiry date, demonstrate that they had not already participate in the survey, and meet the eligibility criteria of the survey. All recruits underwent screening upon arrival at the RDS centre to ensure they were eligible

and that they had received a coupon appropriately. Screeners used a standardized checklist to maintain quality standards. When the desired sample size was nearly reached, recruitment coupons were no longer given to participants.

Table 1: Number of seeds required to recruit the full sample in each township

Site	# seeds at start	# new seeds	Total # of Seeds
Yangon	5	0	5
Mandalay	5	1	6
Monywa	4	1	5
Pathein	5	2	7
Pyay	5	2	7
All sites:			31

To ensure appropriate recruitment, Interviewers instructed participants how they should select potential recruits from amongst their friends and what recruits should be told about the survey. These instructions reviewed with each participant included reviewing: the eligibility criteria of who should be given a coupon with the participant, information printed on the coupon giving the location and operational hours of the RDS center, the time period for which the coupon would be valid, and the rule that recruits must bring the physical coupon in to be able to verify how they were recruited. Participants were also informed about the secondary incentive given for each successful recruit and how they could claim the incentive after the period of the coupon's validity.

Throughout the recruitment period, field teams monitored recruitment on a weekly basis, and Respondent Driven Sampling Analyst (RDS-A) software was used each week to assess bottlenecks and convergence for key variables every week to identify potential problems in recruitment.

6. Population size estimation methods

The population sizes of MSM were estimated using five methods, four of which depended on survey data: 1) the unique object multiplier; 2) the service multiplier method[3]; 3) the successive sampling size (SS-PSE) method[4]; 4) Wisdom of the Crowds; and, 5) key informant and NGO 'best guesses'. Each of these methods are described in more detail in Annex 1. In general, the method used required some key data collected as part of the survey. Therefore, the analytical methods used to calculate estimates needed for the size estimates were the same as that applied to all other survey questionnaire variables. Size estimates calculated using these methods were then reviewed, assessed for bias, and vetted with stakeholders familiar with the MSM communities and who participated in the implementation of the survey field work. Through a consultative workshop held in December 2015, consensus around the population size estimates was achieved. The results section of this report presents the city level population size estimates.

7. Analysis

All data from the questionnaire were entered into EpiData 3.1 at the survey site. Questionnaires and datasets were transferred to central data management, where they were entered a second time and checked for consistency. Coupon management was done using Microsoft Excel 2013 spreadsheets. The bottleneck and convergence analysis conducted for weekly recruitment monitoring used RDS-A 0.51. As questionnaire data were entered, a process of quality assurance was employed to correct identified errors and identify similar errors. For example, errors attributed to interviewers miscoding resulted in review of other

[3] UNAIDS. Guidelines on Estimating the Size of Populations Most at Risk to HIV. Accessed on August 15, 2012 at: whqlibdoc.who.int/publications/2010/9789241599580_eng.pdf.

[4] Handcock M, Gile K, Mar C. 2012. Estimating Hidden Population Size using Respondent-Driven Sampling Data Electron. J. Statist. Volume 8, Number 1 (2014), 1491-1521. Accessed on November 19, 2014 at: http://projecteuclid.org/download/pdfview_1/euclid.ejs/1409619420

questionnaires completed by the same interviewer; errors in data entry triggered review of other data forms entered by that operator, etc. Data entry errors were logged systematically to help identify problematic sections of the questionnaire and flag areas where additional supervision was needed.
The statistical package SPSS was used for data cleaning and recoding of datasets. For this report, RDS-A 0.51 and the Giles Successive Sampling (SS) Estimator were used to analyze the datasets accounting for the chain referral method of sampling. Annex 1 reports the values and sources of information used for the approximate population size estimates needed to use Giles SS Estimator. Seeds were included in the dataset analyzed. Results presented in this report are adjusted population estimates of proportions for univariate and bi-variate analysis. For the univariate analysis, confidence intervals are presented to indicate the likely range of the true value for each parameter and to determine whether differences between sites were statistically significant. For bi-variate analysis, the RDS-A software does not provide statistical testing for differences in adjusted population proportions among sub-groups. Results of chi-squared tests for unadjusted sample proportions are presented as a proxy of statistically significant differences between the adjusted population proportions. These chi-square values are only considered when the value of the unadjusted sample proportions and (adjusted) population proportions of the bi-variate analyses are similar.

8. Ethical conduct

This study protocol was approved by Myanmar Ethics Review Committee on Medical Research Involving Human Subjects, Department of Medical Research, Ministry of Health and Sports.

All eligible respondents underwent a process of informed consent, in which the components of the survey, the rights of the participant to discontinue participation without negative consequences, how the data from the survey could not be linked to individuals, and the potential harms and benefits of participation in the survey were described. Participants who agreed to participate provided written consent or oral witnessed consent. Informed consent forms were kept separately in locked cabinets to protect the confidentiality of participants. There were no reported incidents of ethics violations during the survey.

III. Success of Sampling

Recruitment in all sites went smoothly and in a timely fashion. Table 2 summarizes the recruitment process in terms of numbers of seeds, coupons distributed, enrolled, and fully participated in completing the questionnaire and providing a blood sample. The number determined to be ineligible or refused before full completion is also shown. In general, refusal rates were very low, once participants reached the RDS center and were found to be eligible. The exception was in Pyay where about 15% of those who enrolled were found to be ineligible and a similar percentage of enrollees refused to participate at some point during the process.

Table 2: Recruitment, eligibility, and participation in each survey township

Site	# of Seeds	# Coupon Distributed	# Enrolled	# ineligible	# Refused	Total Enrolled*	Total Fully Participated
Yangon	5	1029	400	5	1	405	399
Mandalay	6	1068	417	32	1	423	390
Monywa	5	924	378	10	2	383	371
Pathein	7	1026	449	47	4	456	405
Pyay	7	984	482	70	5	489	414
	30	**5,031**	**2,126**	**164**	**13**	**2,156**	**1,979**

As part of the process used to gain consensus on the population size estimates derived from IBBS data, local stakeholders were asked to assess potential selection biases in the survey implementation. These stakeholders comprised an array of individuals who had involvement with survey implementation or had

programmatic experience working with the MSM community. The assessment used a scale of 0-3, where a rating of 3 indicated a strong suspected bias on the part of stakeholders.
Table 3 shows the result of this assessment and how each bias may have affected recruitment in each survey site.

Table 3: Assessment of bias in survey implementation by local stakeholders

Scale of 0-3; 3 indicates a severe bias	YGN MSM	MDY MSM	MYA MSM	PTN MSM	PYY MSM
1. Did MSM who already knew they were HIV positive NOT want to participate in the survey?	**1**	**1**	**3**	**0**	**2**
2. Did MSM who had been tested for HIV recently NOT want to participate in the survey?	**0**	**0**	**1**	**1**	**1**
3. Are MSM who have been reached by TOP Center more likely to participate in the survey than those who have not been contacted by the program?	**0**	**2**	**2**	**2**	**1**
4. What proportion of MSM are NOT connected to the network sampled in the survey?	**1**	**0**	**1**	**1**	**1**
5. By how much do MSM sampled in the survey underrepresent all of the city?	**3**	**1**	**0**	**2**	**1**

Each bias appeared to contribute differently in specific survey sites. For example, the first type of selection bias considered was whether MSM who knew they were HIV positive were likely to decline recruitment. This may occur when potential respondents perceive the survey to be a means to get an HIV test. In this case, individuals who already know they are HIV positive would be less inclined to participate. Only stakeholders from one area, Monywa perceived this to be a very severe issue, rating the likelihood of this bias as 3. Stakeholders in Pyay felt this selection bias was a moderate issue. Moderate or high ratings suggest that HIV prevalence might be greatly underestimated and should be interpreted with caution.

In a similar vein, individuals who perceive the survey as a means of getting tested for HIV and who have been tested recently may be less likely to participate. This bias was not rated as highly likely in any site, though the effect would be to underestimate testing utilization in this population. To the extent that testing utilization is also correlated with other variables, such as access to other programme services, those indicators may also be underestimated.

According to stakeholder ratings, Mondalay, Monywa, and Pathein sites were likely to have over-represented individuals who had been reached by Top Center. This implies that service coverage indicators could be over-estimated as well as other variables associated with programme engagement, for example, reported condom use, main source of condoms, etc..

A common limitation of RDS is that the sample represents a network of connected individuals, rather than a community or population within a geographic area. A key assumption of RDS is that the target population comprise a single network component. In reality, some members of the targeted community may form small, isolated network components or be weakly connected to the larger component. These individuals who are present in a given geographic area but who do not maintain strong social ties to the network sampled, will be unrepresented. Most stakeholders did not perceive that smaller more isolated networks were missed given the methods used to seed recruitment chains and conduct actual recruitment.

in Yangon, stakeholders felt strongly that the survey was not able to capture all areas of the city, mostly due to its large size. The rating given was 3, which indicates that the population represented was likely to come

from only one area of the city, presumably the area most convenient to the location of the RDS center. At the same time, in depth analysis of the residential neighborhoods reported by respondents found that the sample came from diverse areas of Yangon, i.e. from nearly 30 townships within the metropolitan area. Underrepresentation of some parts of the city was also perceived to be important issue in Pathein, where the rating was 2. For the purposes of size estimation, this type of selection bias may result in much lower estimates, however for other estimates it is difficult to know whether the MSM in parts of the city not included in the sample had different socio-demographic characteristics or risk behaviors that might change the survey results.

Using the analytic tools provided in RDS-A, the presence of bottlenecks and lack of convergence were tested for key variables.[5] In some cases, problems with bottlenecks and lack of convergence were addressed by combining response categories. For example, moving from a five-category frequency scale (e.g. Always, almost always, sometimes, rarely, never) to a three-category frequency scale (e.g. Always/almost always, sometimes, rarely/never). However, this was not possible for all variables where problems were identified. Examples of residual bottlenecks for key variables include: group identity in Pyay, and ever having a regular partner, commercial partner and female partner for Yangon and Pyay. Examples of variables which did not reach convergence include: group identity in Yangon, age less than 25 years old in Mandalay, ever having a regular partner, commercial partner and female partner for Yangon and Pyay, numbers of sex partners in Yangon, HIV prevalence in Yangon, prevention coverage and testing in the last year in Monywa, Annex 4 shows examples of recruitment chains by group identity, HIV prevalence, and prevention coverage in survey sites where estimates failed to converge.

The interpretation of results should consider these qualitative assessments of potential biases and the advisability of generalizing the survey results to the broader population of MSM in these cities.

IV. Key Results

Note: All results presented reflect population estimates unless otherwise noted. Site specific profiles showing key variables are presented in Annex 5.

1. Group Identity

Within the population meeting the eligibility criteria for MSM used by the IBBS, there exists several important sub-groups with distinct sexual behaviors and risk profiles. In Myanmar, local terminology is used to describe three groups of MSM: Apwint, Apone, and Tha Nge.

- Apwint are individuals born biological male but who openly express themselves femininely by dress and/or social interactions.
- Apone are individuals born biological males who may also want to express themselves femininely but may not disclose this behavior to all segments of their social networks.
- Tha Nge have a masculine outward appearance and affect but have sex with men.

This survey asked respondents which of the three groups they identified themselves with, as well as asked questions about sexual preference, gender identity and usual anal sex position (i.e. the receptive or insertive partner).

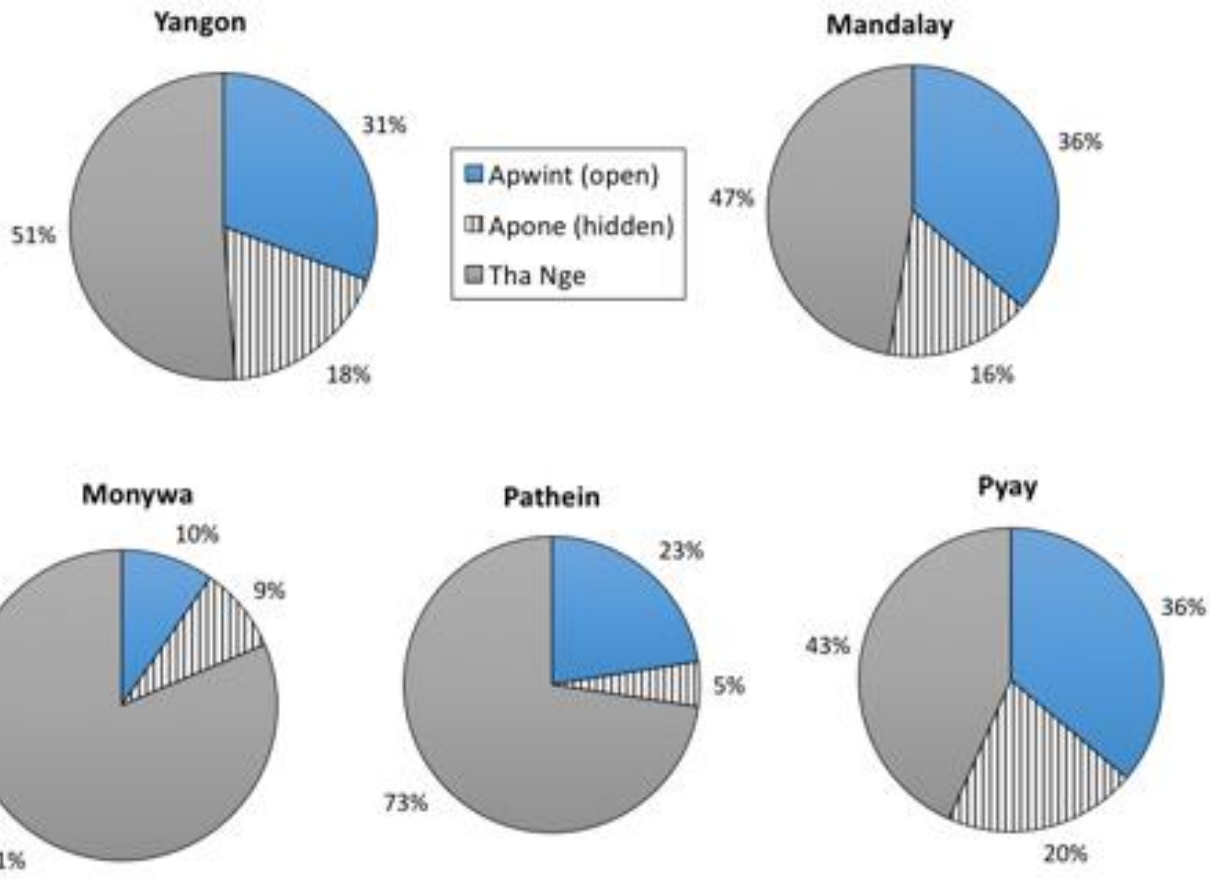
Across all five IBBS sites, the proportion of MSM identifying as Apwint, Apone, and Tha Nge varied significantly. However, across sites those identifying in each group showed strong consistency in terms of gender identity, sexual preference, and usual anal sex position.

[5] Bottle necks and lack of convergence refer to problems in the recruitment networks which violate the assumptions necessary for generating reliable and representative estimates from the sample. Estimates for variables for which bottle necks or lack of convergence are detected must be interpreted with caution and may affect the estimates of sub-group analysis using these variables.

For example, in Yangon, Mandalay and Pyay, approximately half the respondents identified themselves as Tha Nge.[6] However, in Monywa and Pathein, this proportion was much larger. The proportion of Apwint to Apone also varied by site. In Yangon, Mandalay and Pyay, respondents identifying as Apwint were about twice the number as Apone. In Monywa, there were almost as many Apone as Apwint, and in Pathein, there were four times the number of Apwint compared to Apone.

In all IBBS sites, all Tha Nge identified with the male gender. And all Apwint identified their gender as female or 'achaw.' 'Achaw' is a Myanmar language term, similar to the term translated as transgender in other countries and suggests a third gender besides male and female. There is greater variability among Apone as to whether they identify as Male or Achaw. There were no sites in which Apone respondents identified as female.

Figure 1: Group identity described by MSM respondents



Denominator: All respondents

We looked in more detail at how those who identify as Tha Nge described their sexual attraction to males and females in figure 2. We see a wide range of responses by site. In Yangon, among MSM who identify themselves as Tha Nge, 34% felt sexually attracted to males, compared to less than 1% in Monywa and Pathein. Except for those in Yangon, more than 80% of those who identified as Tha Nge reported attraction to mostly females or equally to males and females. These data suggest some differences in the group identifying as Tha Nge, in Monywa. In Monywa, 52% of Tha Nge said that they were mostly attracted to females, compared to 26% in Pathein and less than 15% in the other three sites.

[6] Bottlenecks were detected for group identity in Pyay. Group identity estimates did not reach convergence in Yangon.

Figure 2: Gender identity among MSM respondents by group

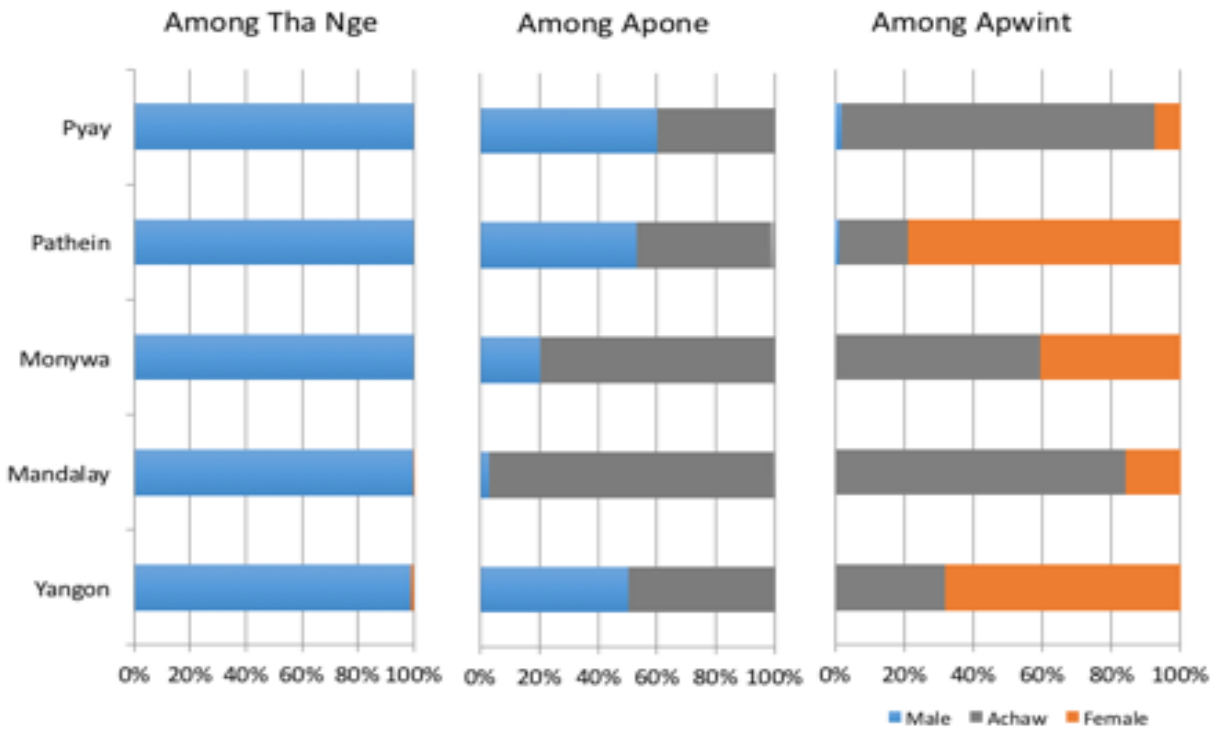
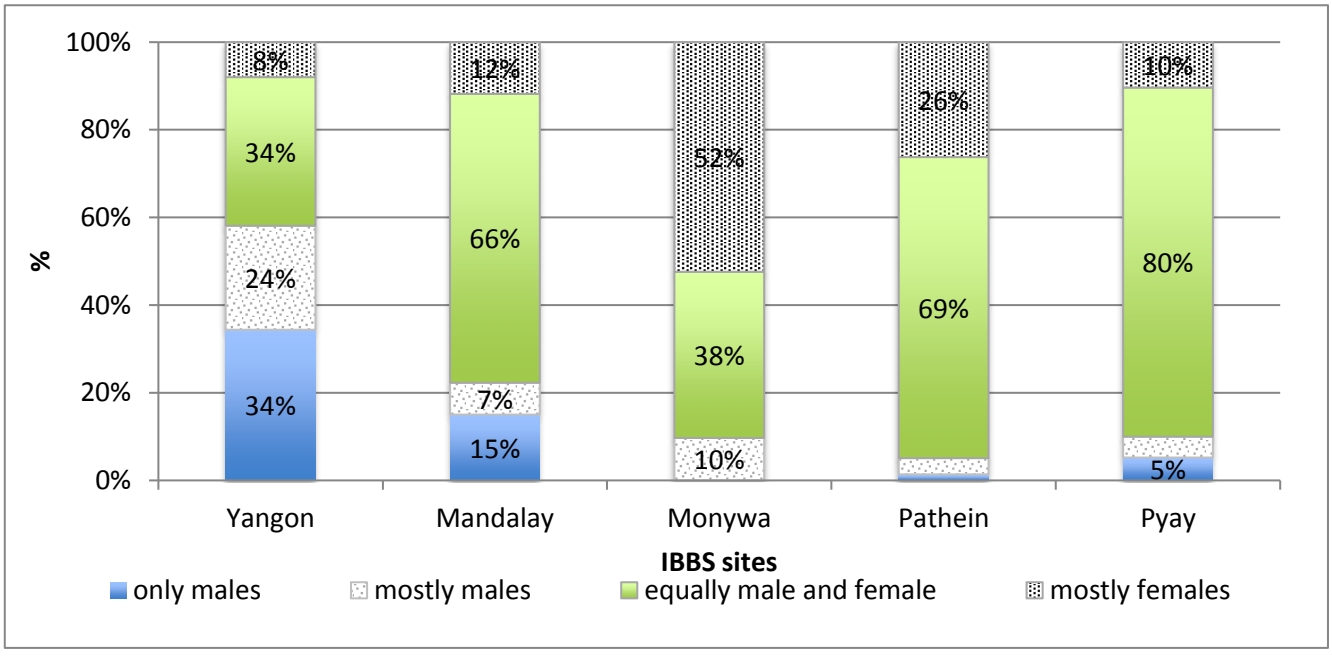


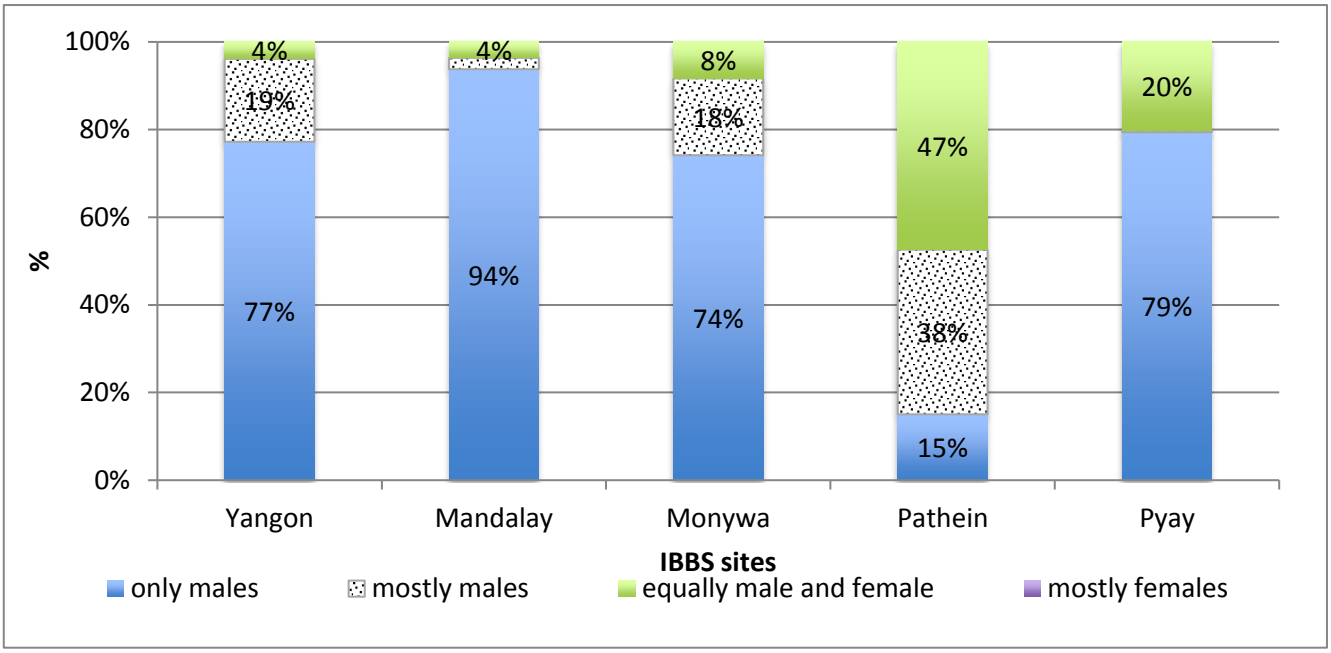
Figure 3: Sexual preference among MSM respondents who identify as Tha Nge



Denominator: Respondents who identify with the group Tha Nge

We also observed sharp differences between sexual preference among those identifying as Apone and Tha Nge. In all sites except Pathein, more than 80% of Apone describe sexual attraction only to males or mostly to males. The pattern in sexual preference looks different among Apone in Pathein, however, this sub-group comprises only 5% of the total sample and the difference is not statistically significant.

Figure 4: Sexual preference among MSM respondents who identify as Apone

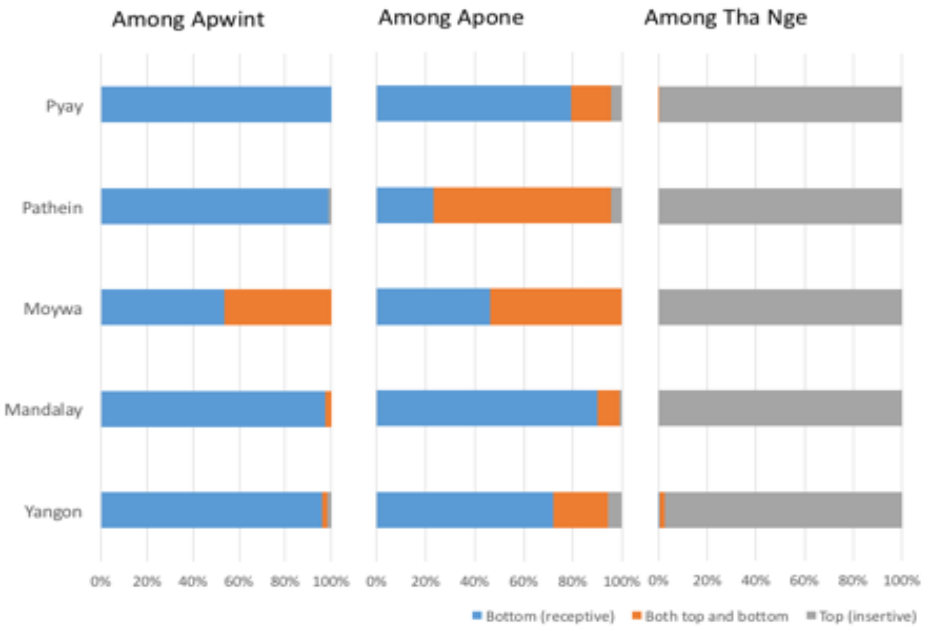


Denominator: Respondents who identify with the group Apone

Among those who identify as Apwint, in all sites, 100% report sexual attraction to only males or mostly males. No respondent who identified as Apwint reported being equally attracted to males and females.

The pattern of respondents' usual anal sex position by group identity showed greater consistency across sites. In many MSM communities, being the insertive partner is associated with a more masculine role while receptive partners generally have more feminine characteristics. In these samples, respondents who identified as Tha Nge reported their usual anal sex position being insertive (top). While almost all respondents who identified as Apwint reported usually being the receptive partner (bottom). A small proportion of Apwint in Yangon, Mandalay, and Monywa reported taking both the insertive and receptive anal sex position. Again, among Apone, respondents demonstrated more variability in terms of usual anal sex position by group identity. In Pathein, more than three quarters of those who identified as Apone did not have a usual anal sex position (i.e. were both top and bottom). However, very few Apone consistently took the insertive role when having anal sex.

Figure 5: Usual anal sex position among MSM respondents by group



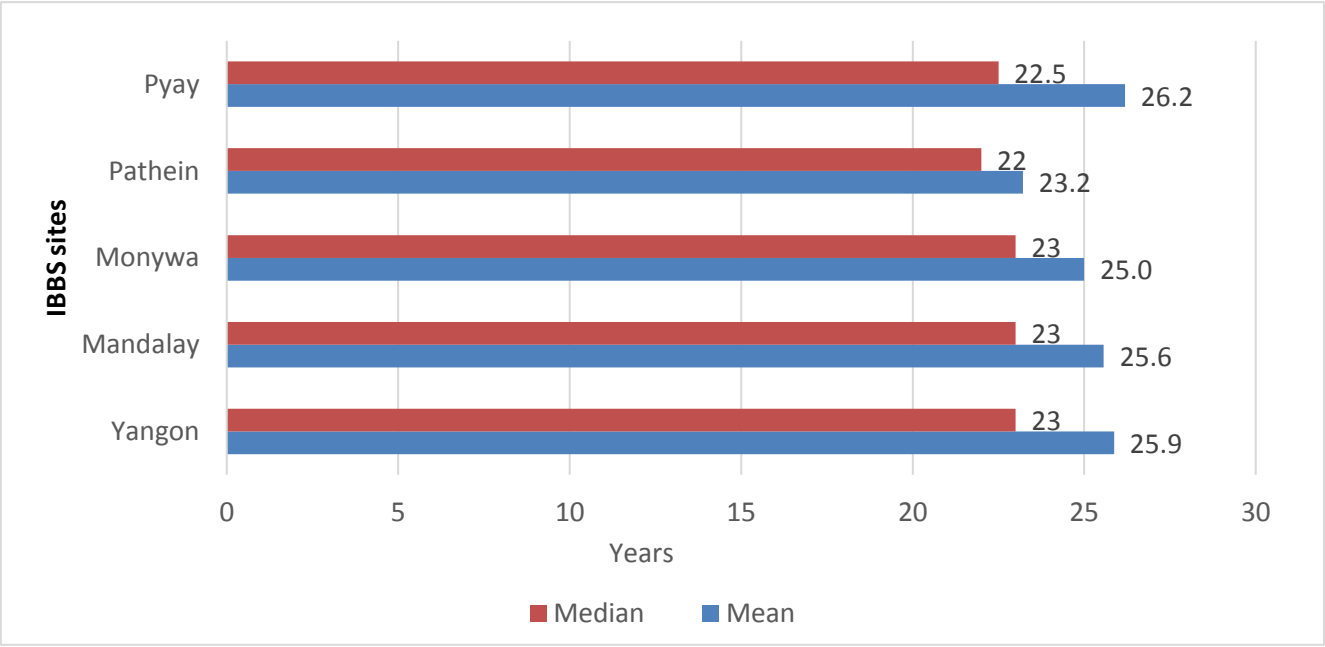
These patterns are important to note because receptive anal sex has been shown to increase individuals' vulnerability to HIV infection and may indicate decision making power with sexual partnerships among MSM. The consistency of social behavior associated with group identity across sites provides evidence that these groups are distinct and meaningful for designing prevention programs and other services to meet the needs of higher risk sub-groups.

Some in-country experts engaged in providing services to MSM communities suggest that the high proportion of Tha Nge included in the survey samples appears higher than expected and may indicate biased recruitment. From an analytical perspective, the estimates for group identity did not converge in Yangon, but no obvious bottlenecks within specific recruitment chains were observed in that site. In Pyay, bottlenecks were detected for the proportion of Tha Nge. However, the proportion of Tha Nge in the sample were lowest in Yangon and Pyay, and no strong evidence of recruitment bias was detected in Monywa and Pathein, i.e. the sites with much higher proportions of Tha Nge. In light of the implications of the sample not representing the true proportion of Apwint, Apone and Tha Nge, greater examination of the factors associated with a higher proportion of Tha Nge in an area is needed to determine whether recruitment bias was likely in these samples. In the absence of more evidence, estimates used to track the epidemic or evaluate the success of programs from the whole sample should be compared with estimates stratified by group identity to make appropriate conclusions.

2. Age, marital status, education, income

The age distribution of MSM in an area has implications for the intensity (i.e. frequency and numbers of different partners) of sexual activity and duration of exposure to high risk sexual behavior. The median age of respondents ranged from 22-23 across all sites.

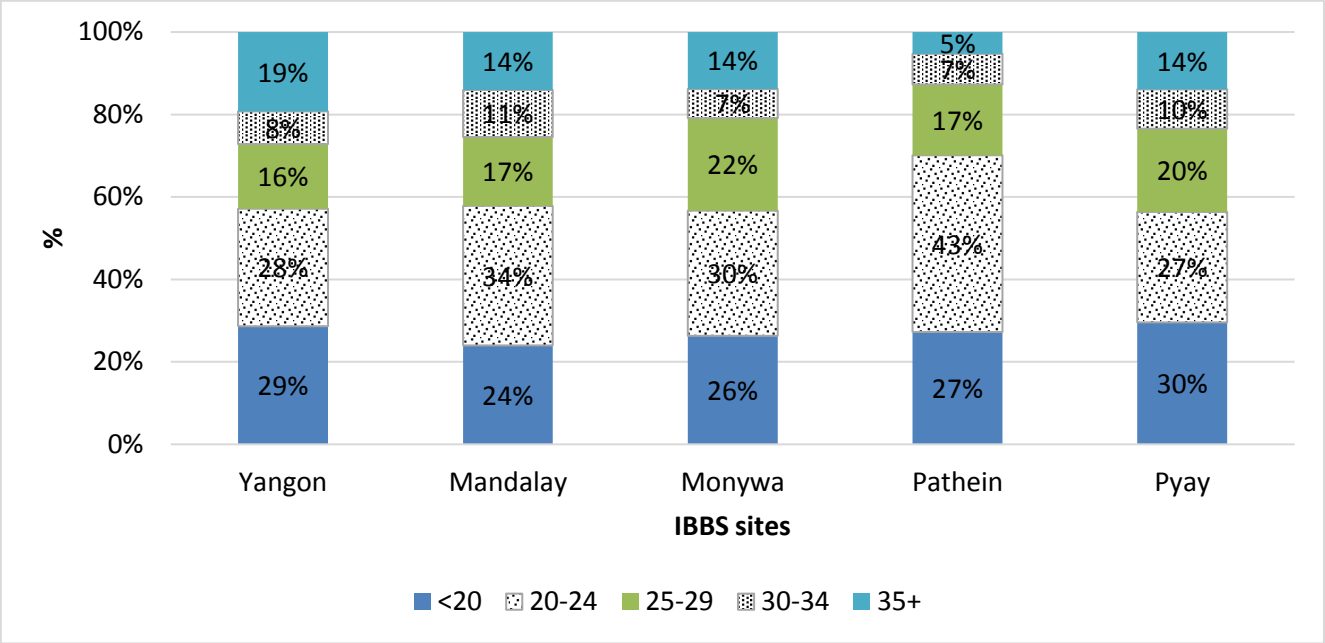
Figure 6: Median and mean age of MSM respondents



Includes all respondents

Younger men, i.e. age less than 25 years, comprised the majority of MSM represented by the surveys in all sites. In Pathein, about 88% of all MSM were under age 30. The mean age of MSM was slightly older in the two metropolitan cities, Yangon and Mandalay compared to the other three sites.

Figure 7: Age distribution of MSM respondents

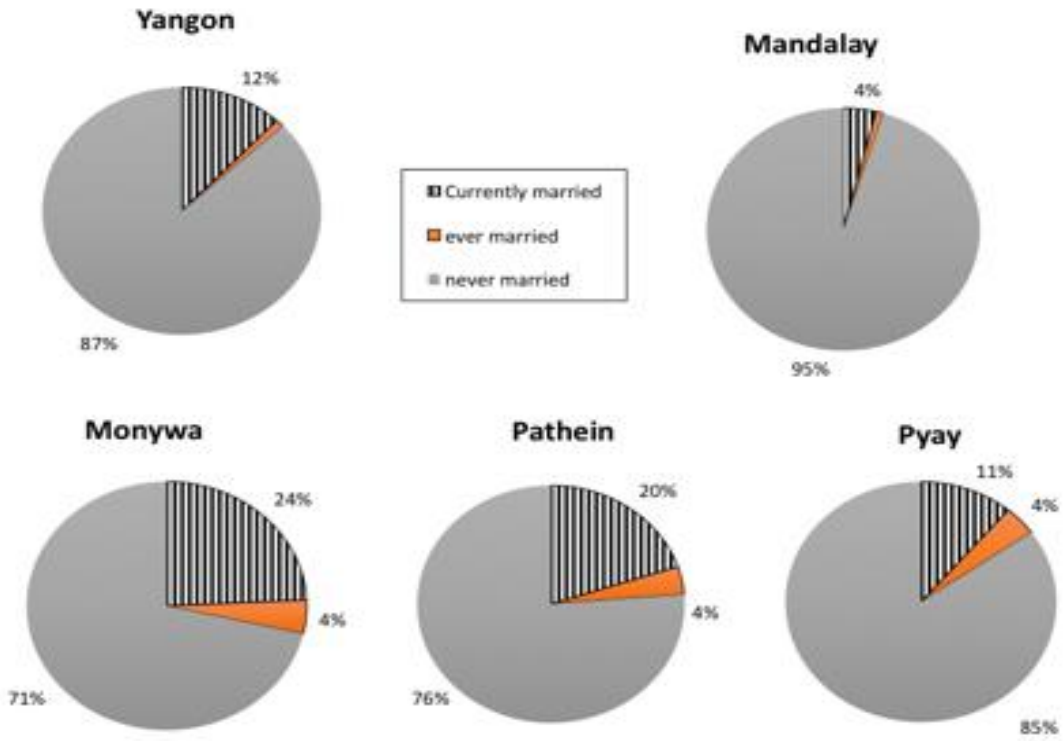


Denominator: All respondents

The majority of MSM respondents in all sites reported having never been married to a woman.[7]

The portion of MSM who had ever been married or who were currently married ranged from 4% in Mandalay to 24% in Monywa.

Figure 8: Current marital status (to a woman) reported by MSM respondents



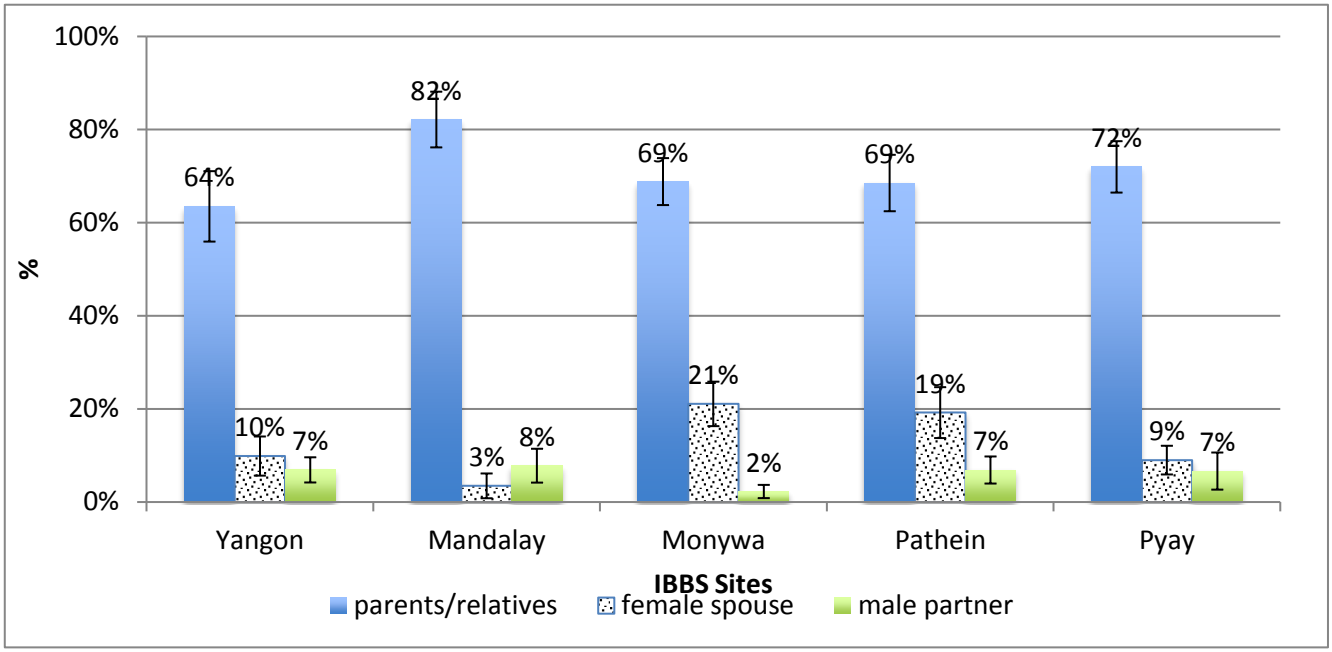
Denominator: All respondents

[7] The question on marital status specifically referred to marriage between respondent and a woman.

The proportion of respondents who were ever or currently married reflects both the degree to which MSM preferred sex with both men and women as well as the degree of openness to family regarding their sexual preference for men. For example, the highest proportion of currently married MSM was observed in sites with the highest proportion of Tha Nge, i.e. men who identified as male gender and largely reported being sexually attracted to women as well as men.

Given the large proportion of respondents who were not currently married, the majority of respondents in all sites lived with their parents or other relatives. Less than 10% of respondents in all survey sites reported currently living with their male sex partner. And between 3-22% of respondents reported currently living with a female spouse.

Figure 9: Proportion of MSM respondents who live with parents/relatives



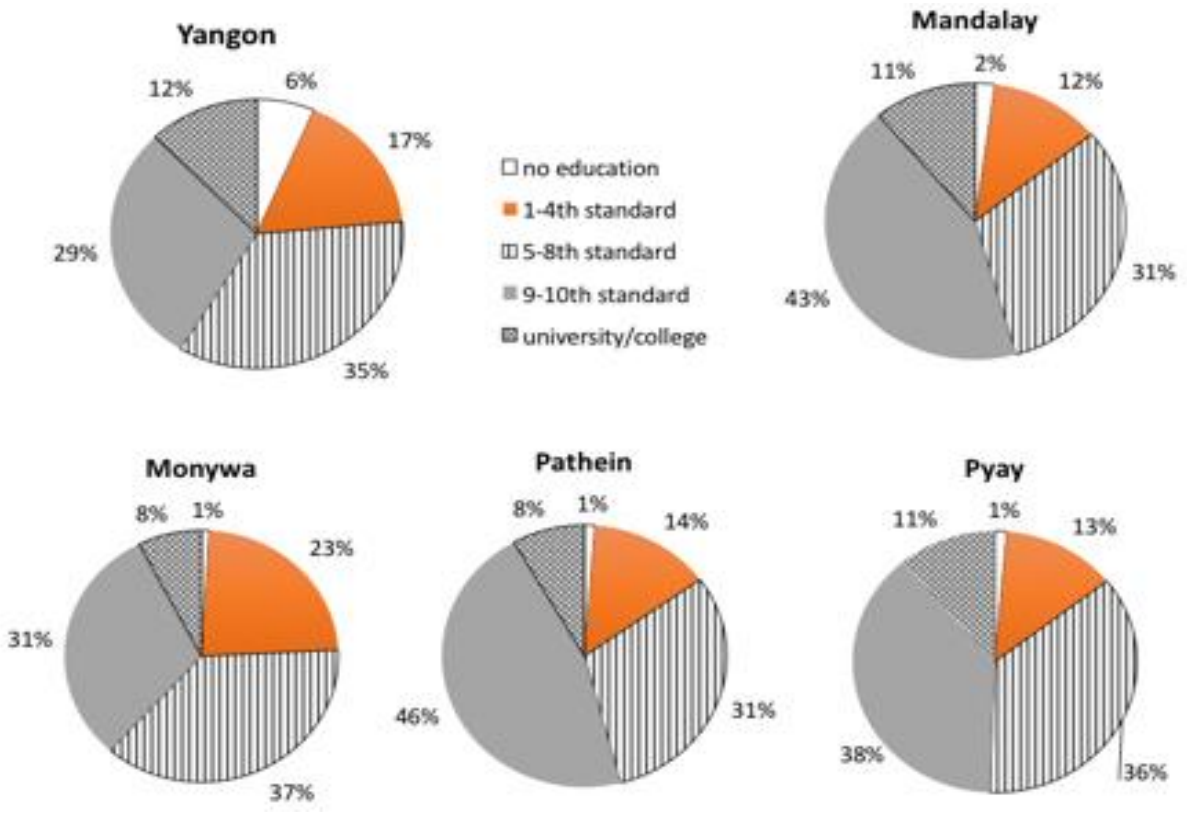
Literacy in Myanmar language was high among MSM. In all sites, less than 5% of MSM respondents could not read or write. And more than 75% of the sample had completed the 5th standard.
Median monthly income among MSM ranged from 100,000 kyats in Pyay to 150,000 kyats in Yangon and Mandalay.

When asked to describe their main source of income in the past 12 months[8], 15% of respondents in Yangon and 17% of respondents in Pyay said they were unemployed or a dependent of another. Lack of employment was less common in Mandalay, Monywa, and Pathein.

The most common source of income among MSM was manual work. One category of work specific to MSM is Natgadaw, a form of temple work performed by some Apwint mostly during the temple festival season. The highest proportion of the sample who were Natgadaw as their primary occupation was reported in Pathein (11%), compared to less than 1% of the sample in Mandalay and Monywa. Because this type of temple work is seasonal, a higher proportion of respondents may have been natgadaw but not all of them may have been able to depend on this work as a main source of income.

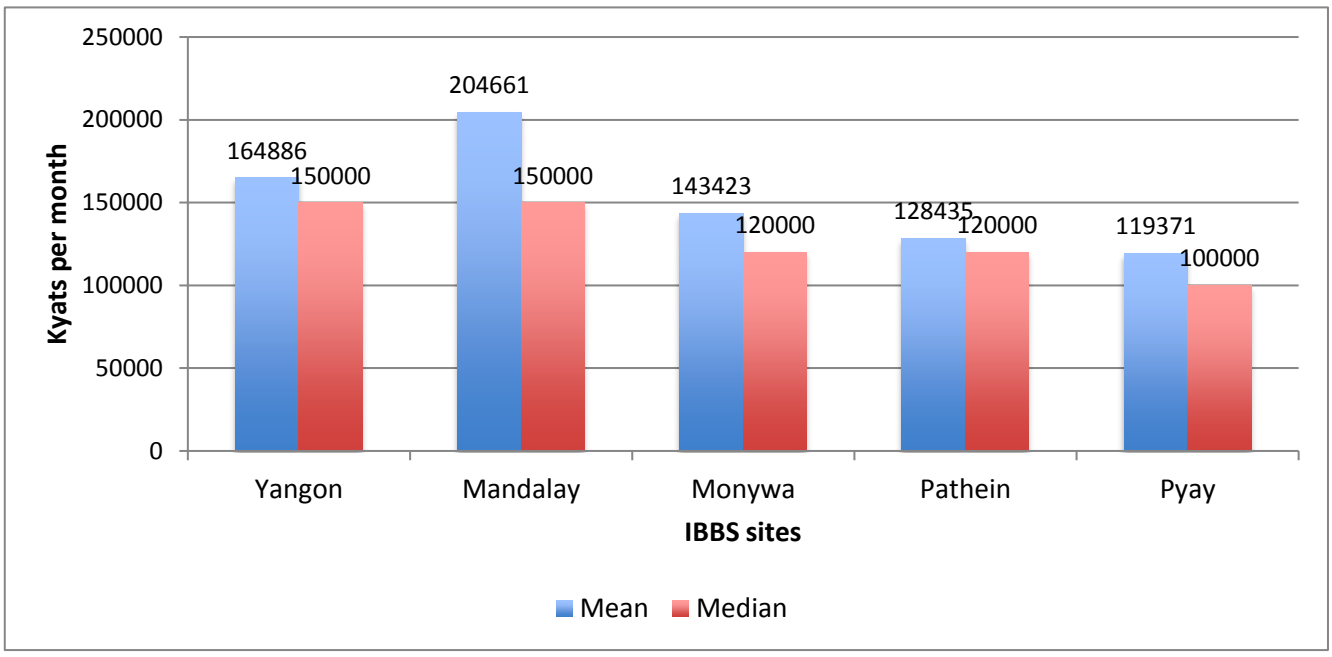
[8] Estimates for main source of income did not reach convergence in Yangon, Pathein, and Pyay

Figure 10: Education status of MSM respondents



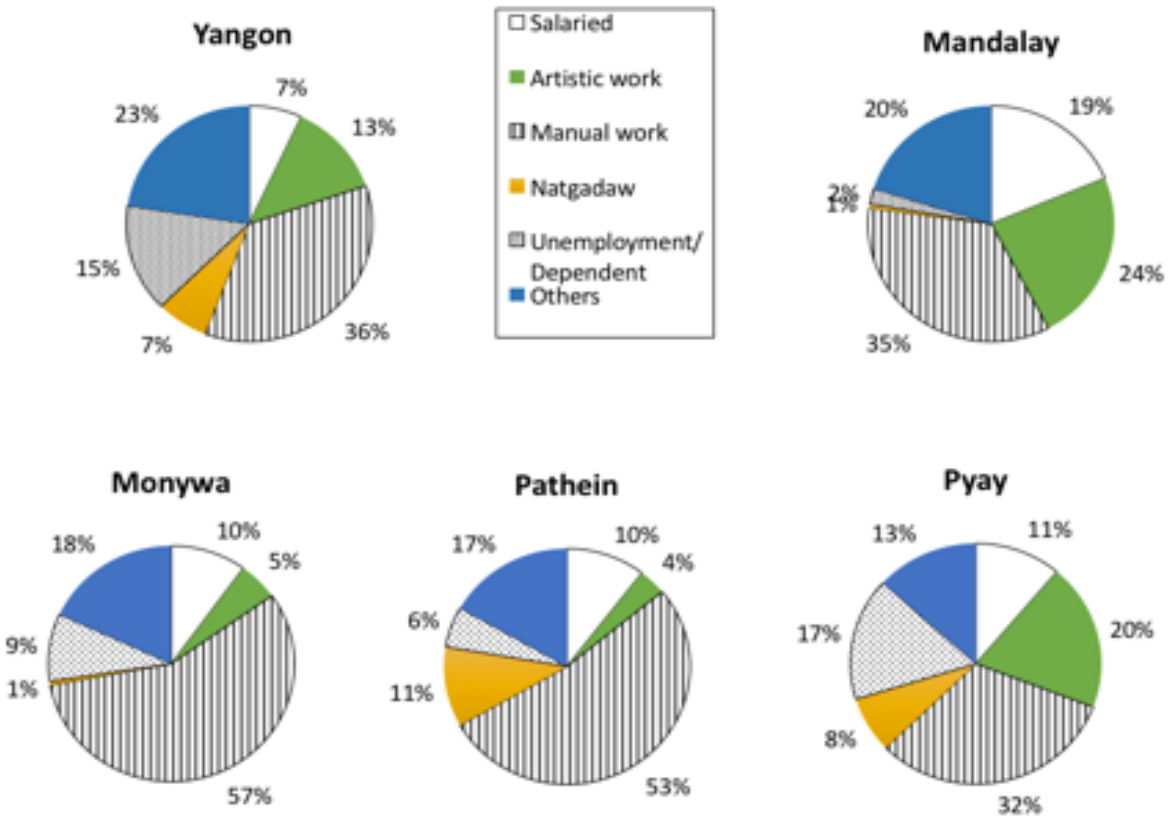
Denominator: All respondents

Figure 11: Monthly income among MSM respondents



Denominator: All respondents

Figure 12: Main source of income in the past 12 months reported by MSM respondents



Denominator: All respondents

3. Early sexual experiences

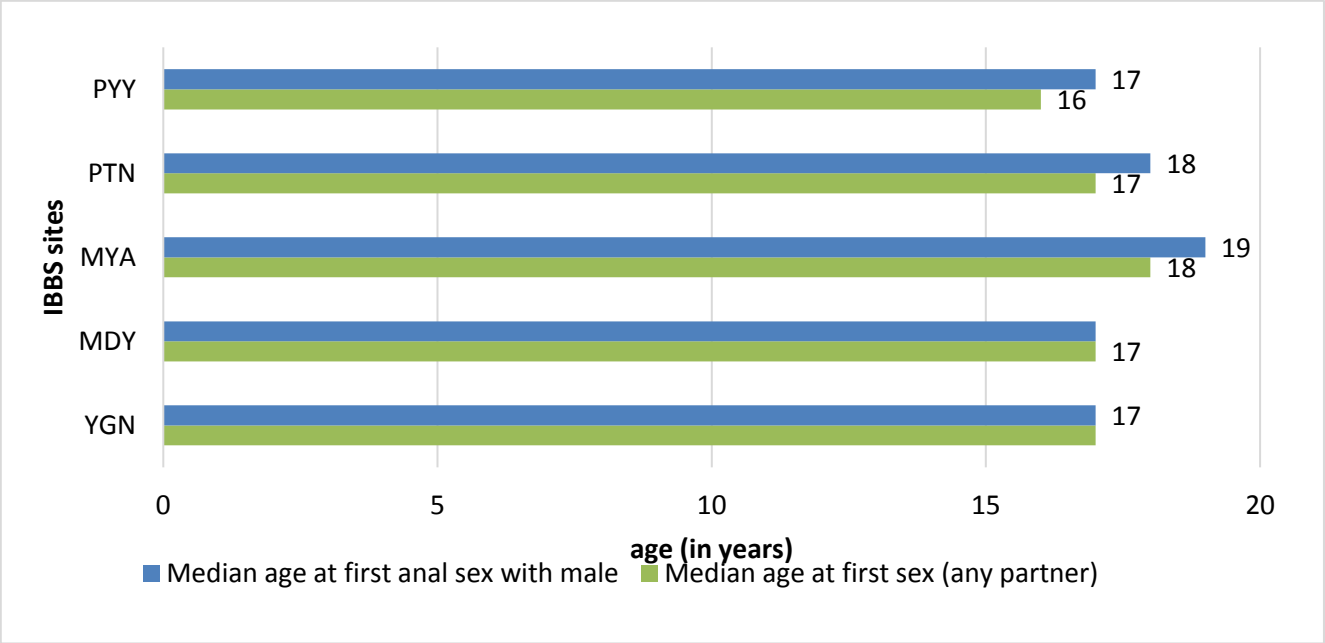
The median age at first vaginal or anal sex among MSM respondents was 16 in Pyay, and 17 in Yangon, Mandalay and Pathein. Respondents in Monywa reported the highest median age at first sex, at 18 years of age. This translates to a median duration of being sexually active of between 4-6 years across all sites. The 75th percentile value for years being sexually active was 13 years in Yangon compared to only 8 years in Pathein. This relatively short duration of sexually active reflects the generally younger age of respondents in the survey.

Respondents were asked whether their first sexual partner was male. In Yangon and Mandalay and Pyay more than 80% of respondents had a man as a first sexual partner. In Monywa and Pathein a smaller majority (60-70%) of respondents had a male partner at sexual debut.[9] This finding is notable given that about three quarters of MSM respondents in those cities identified as Tha Nge and reported feeling sexually attracted to women.

When asked whether they had ever had (vaginal or anal) sex with a female partner, respondents 24-65% of respondents said they had. Together, these results suggest that some portion of MSM's sexual debut was with a male partner and subsequently had sex with a woman. For example, at least 15% of MSM in Yangon and Mandalay and 20-30% of MSM in Monywa and Pathein had this experience.

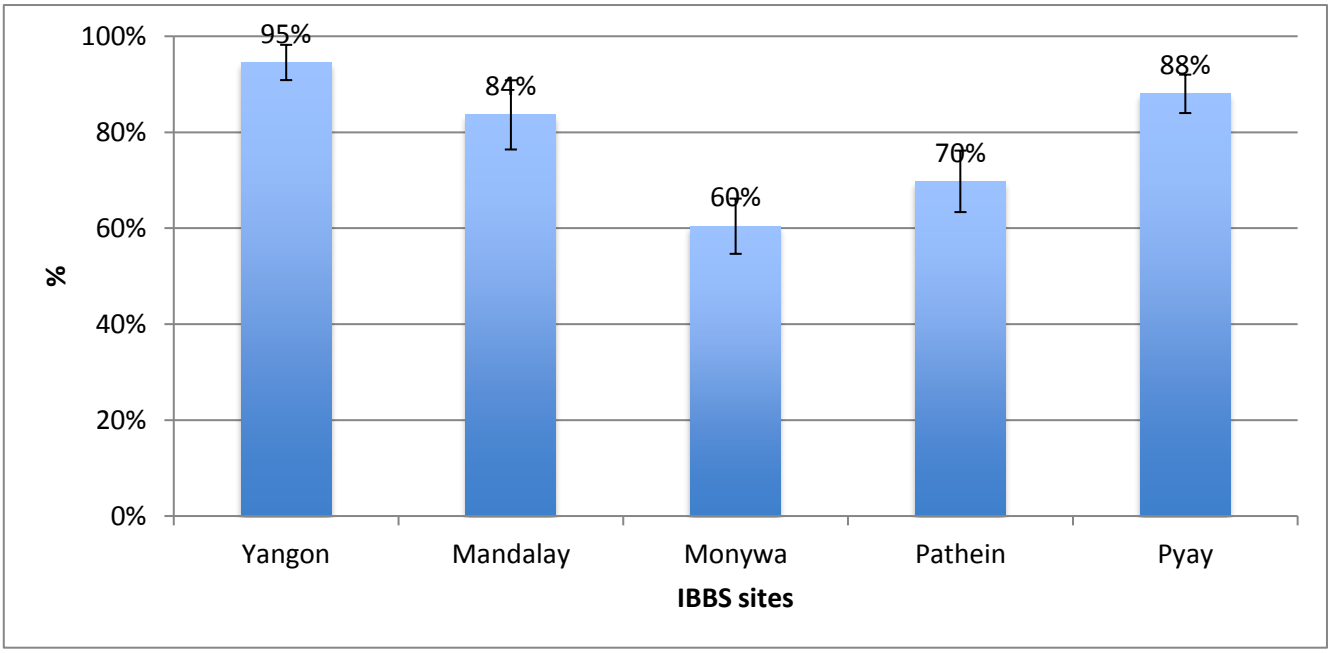
[9] Given that a majority of respondents had a male sexual partner at sexual debut, the age at first anal sex with a man is very similar to the age at first sex.

Figure 13: Age of sexual debut reported by MSM respondents



Denominator: All respondents

Figure 14: Proportion of MSM respondents whose first sexual partner was male

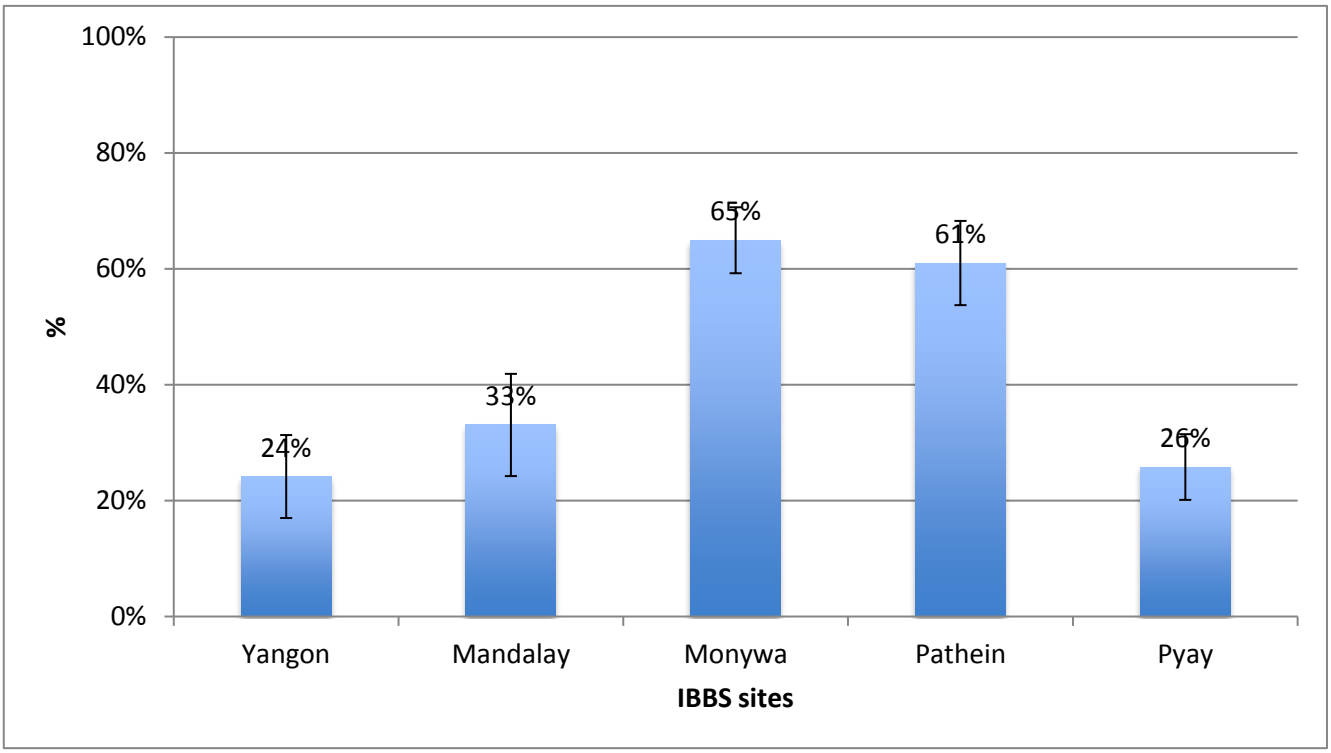


Denominator: All respondents

The proportion of male respondents who had been having anal sex with men for a short duration (a year or less) was as low as 11% in Pyay and as high as 33% in Monywa. The proportion of newly active MSM has implications for interpreting HIV prevalence.

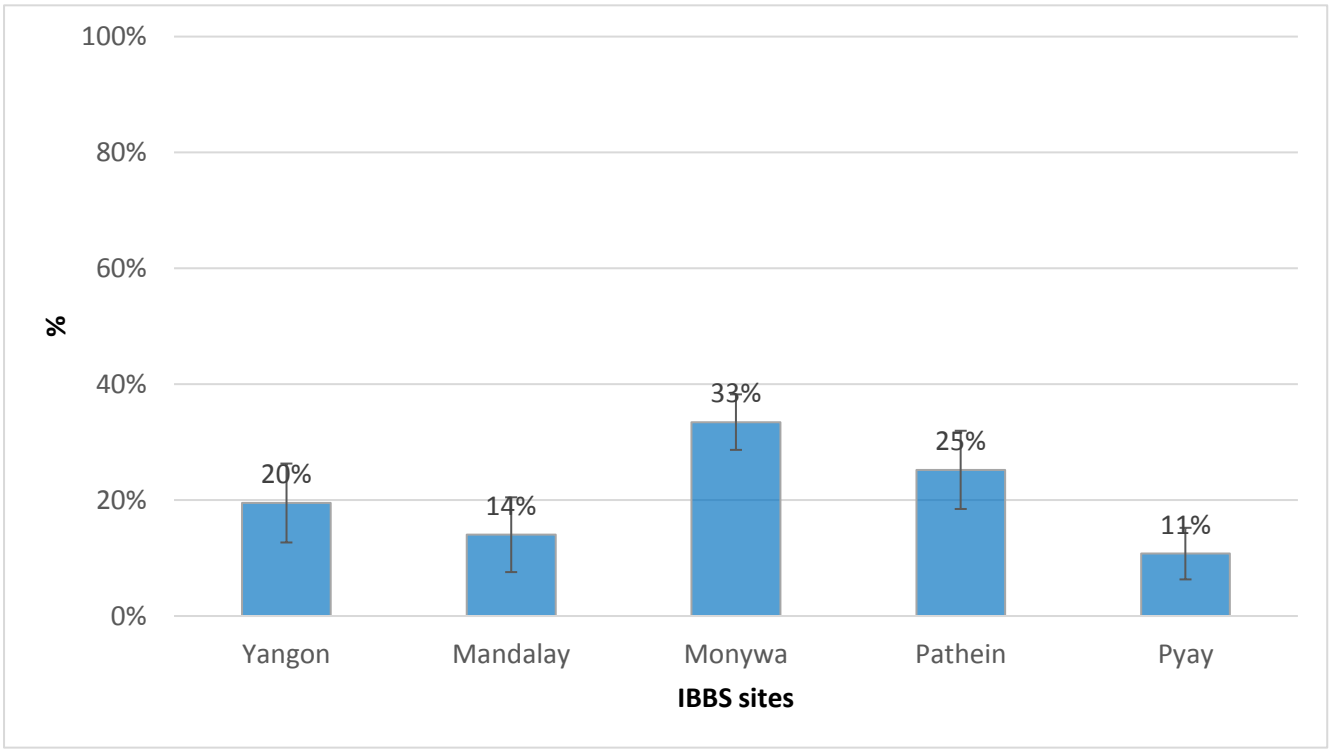
Given the reduced HIV risk among those having anal sex with men for a shorter duration, we also looked for differences in this measure by group identity. We found that those who identified as Tha Nge were much more likely to have had a short duration of sexual activity with men, compared to Apwint and Apone respondents, in most sites. This percentage ranged from 21-41% of Tha Nge respondents. In Yangon, nearly a quarter of Apone respondents also had been active MSM for one year or less.

Figure 15: Proportion of MSM respondents who ever had a female sex partner



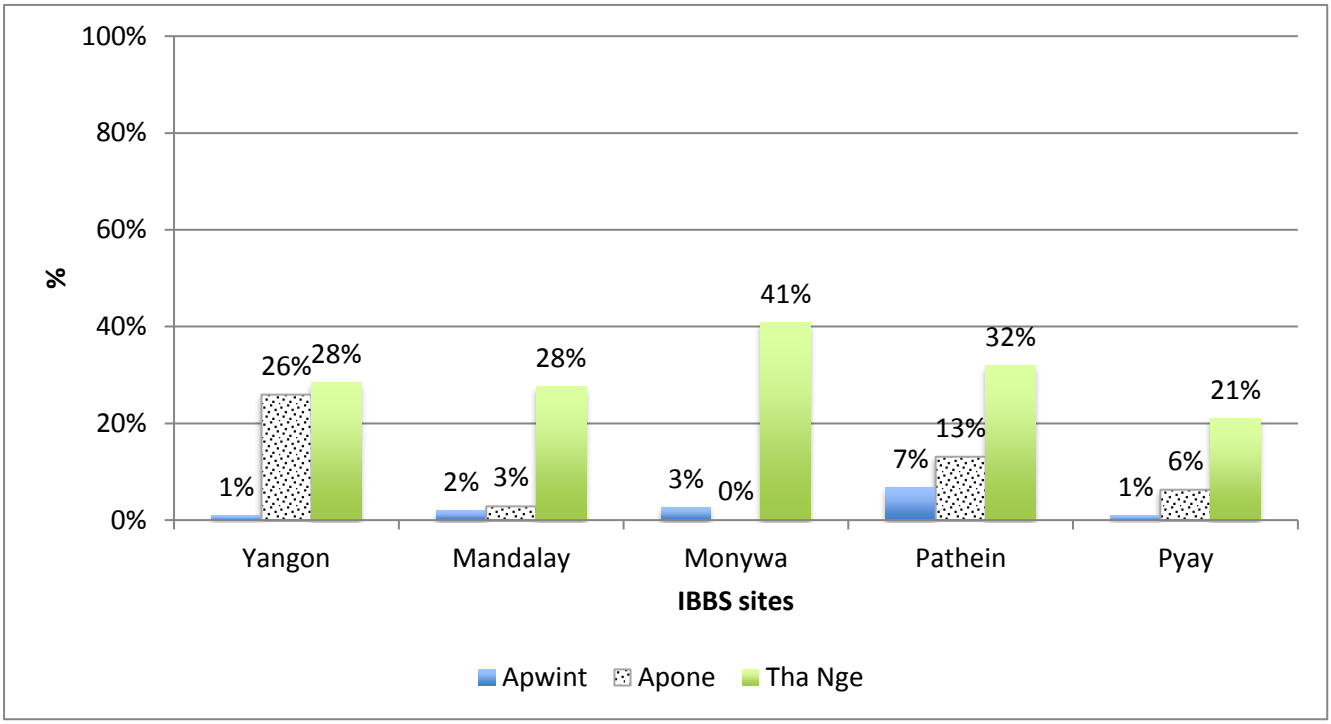
Denominator: All respondents

Figure 16: Proportion of MSM respondents having anal sex with men for one year or less



Denominator: All respondents

Figure 17: Proportion of MSM respondents who have had anal sex with men for one year or less, by group identity



4. Disclosure of MSM identity, stigma and discrimination

Another useful characteristic of MSM to describe is the extent to which individuals are open about their sexual preference (i.e. whether family, friends, and people whom they work with know they are MSM). The degree of openness may affect a person's willingness to utilize services designed for MSM and how well they are networked to others in the MSM community.

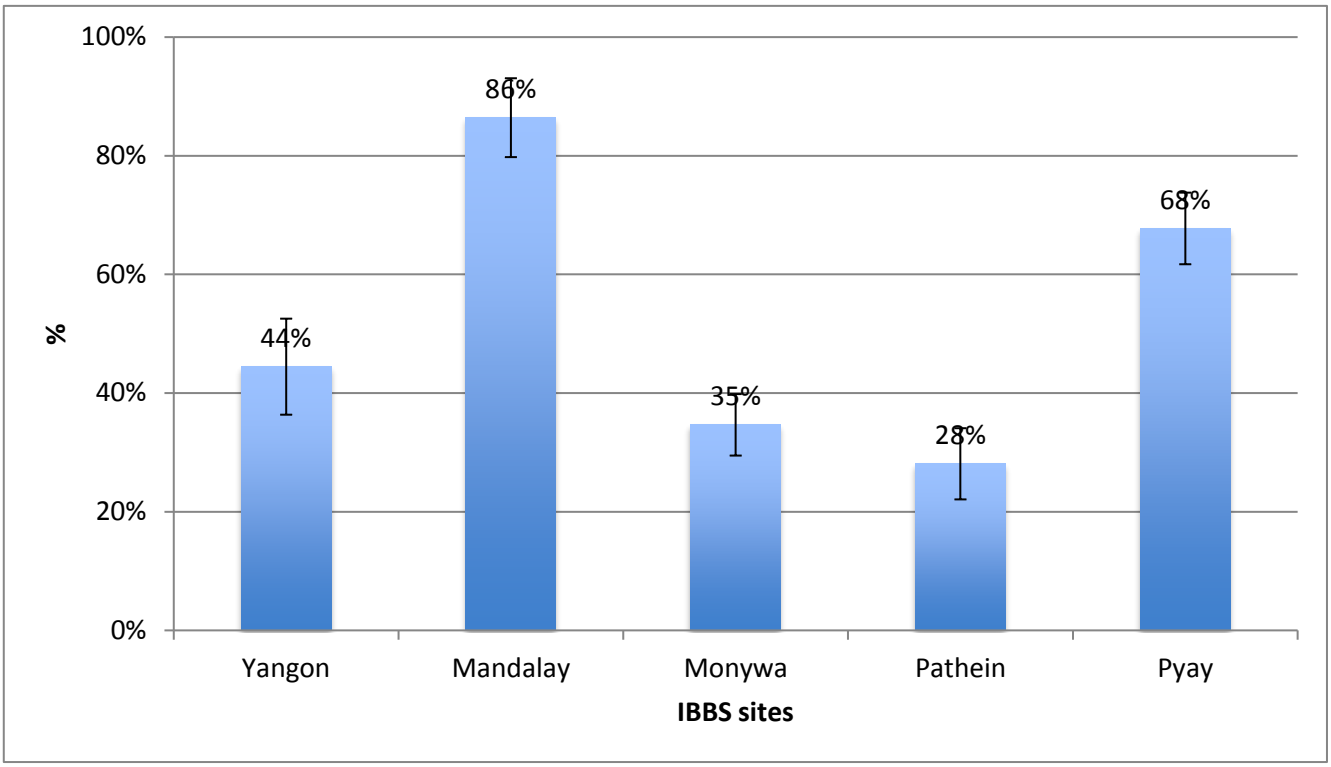
Our analysis suggests that disclosure ranged widely in different sites and in general MSM were more likely to share their MSM identity with close friends, as compared to family. We expected that in larger metropolitan areas, attitudes about MSM were more accepting and a higher level of disclosure would be reported. In Mandalay, 86% of respondents reported that most of their close friends knew they were MSM. But in Yangon, this proportion was about half (44%) the proportion observed in Mandalay. Monywa and Pathein had the lowest levels of disclosure to close friends, however, the confidence intervals suggest that these levels were not significantly different than those observed in Yangon.

Patterns of disclosure of MSM identity to family were much lower across all sites, but the relative levels of disclosure to family across sites were similar to that observed for disclosure to close friends, i.e. Mandalay showing a significantly higher level of openness compared to Yangon, Monywa and Pathein.

We hypothesized that differences in level of disclosure may be partially explained by the differences in proportion of respondents who identify as Tha Nge. Across all sites, we found that those who identified as Apwint were much more likely to report that most of their close friends knew their MSM identity, as compared to Apone and Tha Nge.

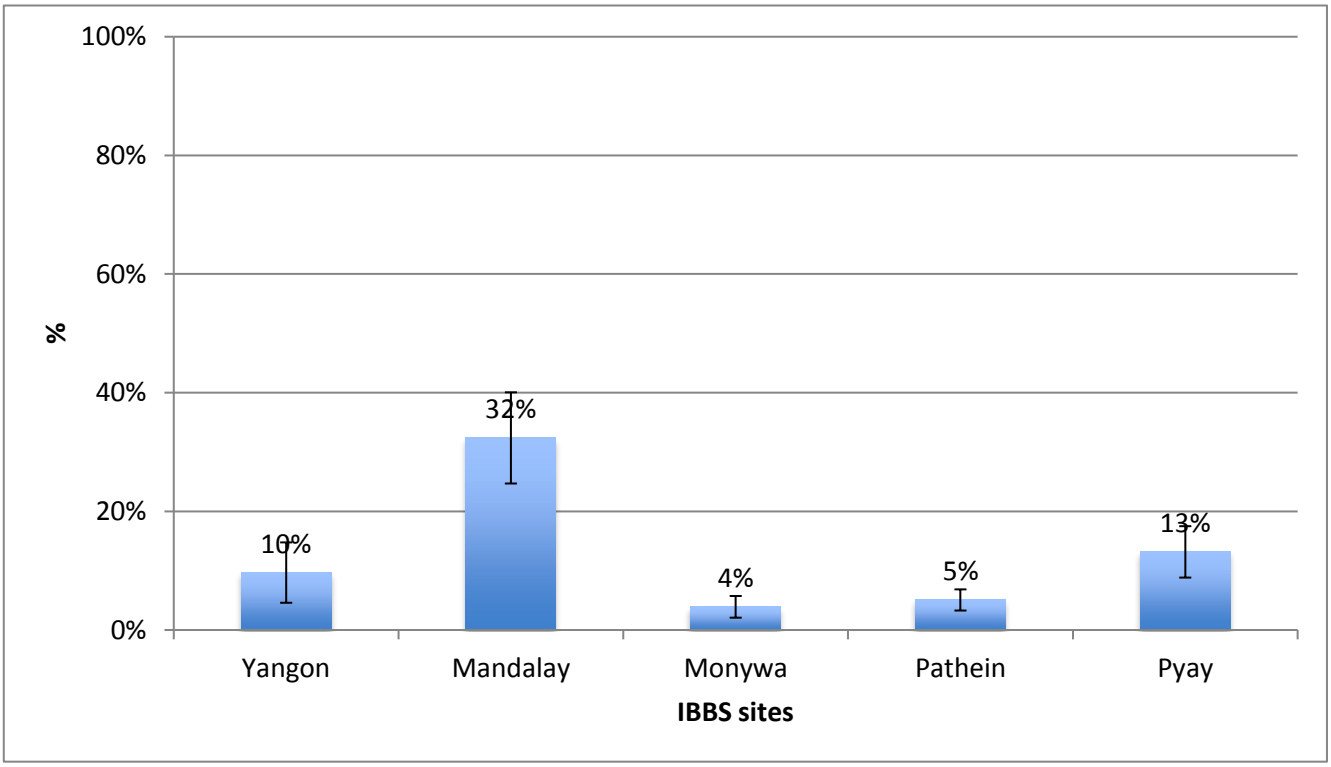
However, differences by group identity were relatively small in Mandalay. Level of disclosure of MSM identity to close friends was similar among Apone and Tha Nge in Yangon, Monywa and Pathein.

Figure 18: Proportion of MSM respondents who say most of their close friends know they have sex with men



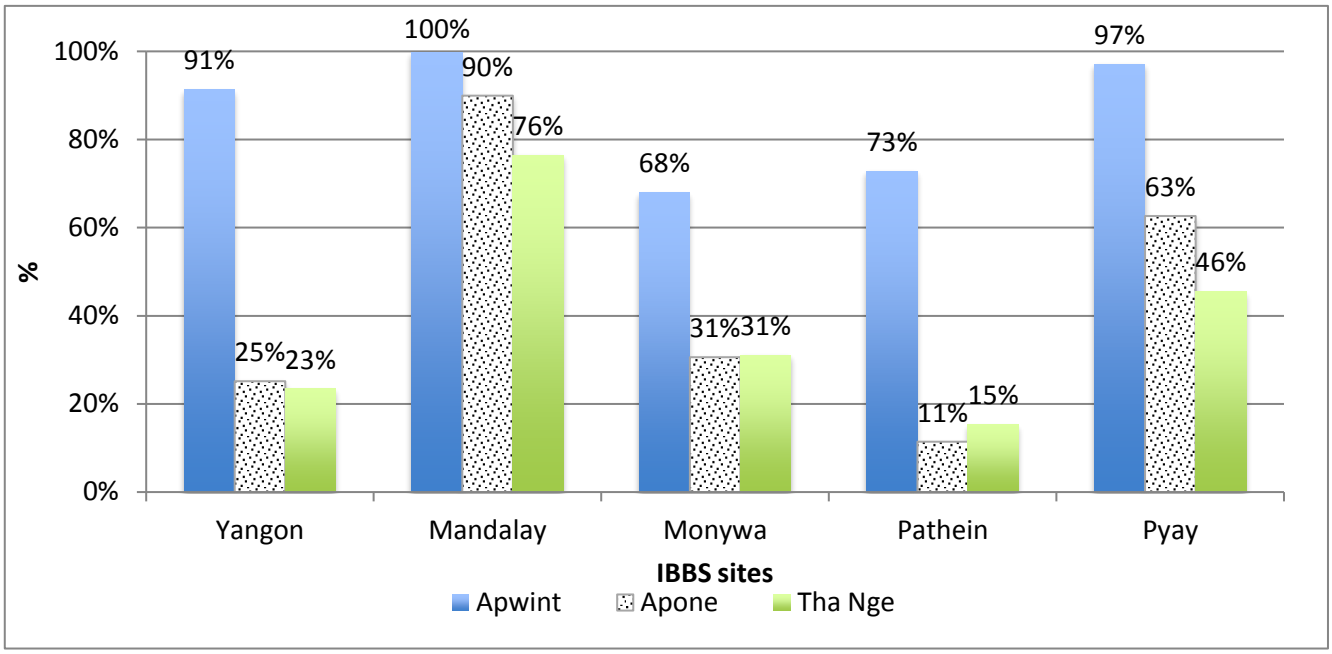
Denominator: All respondents

Figure 19: Proportion of MSM respondents who reported most of their family know that they have sex with men



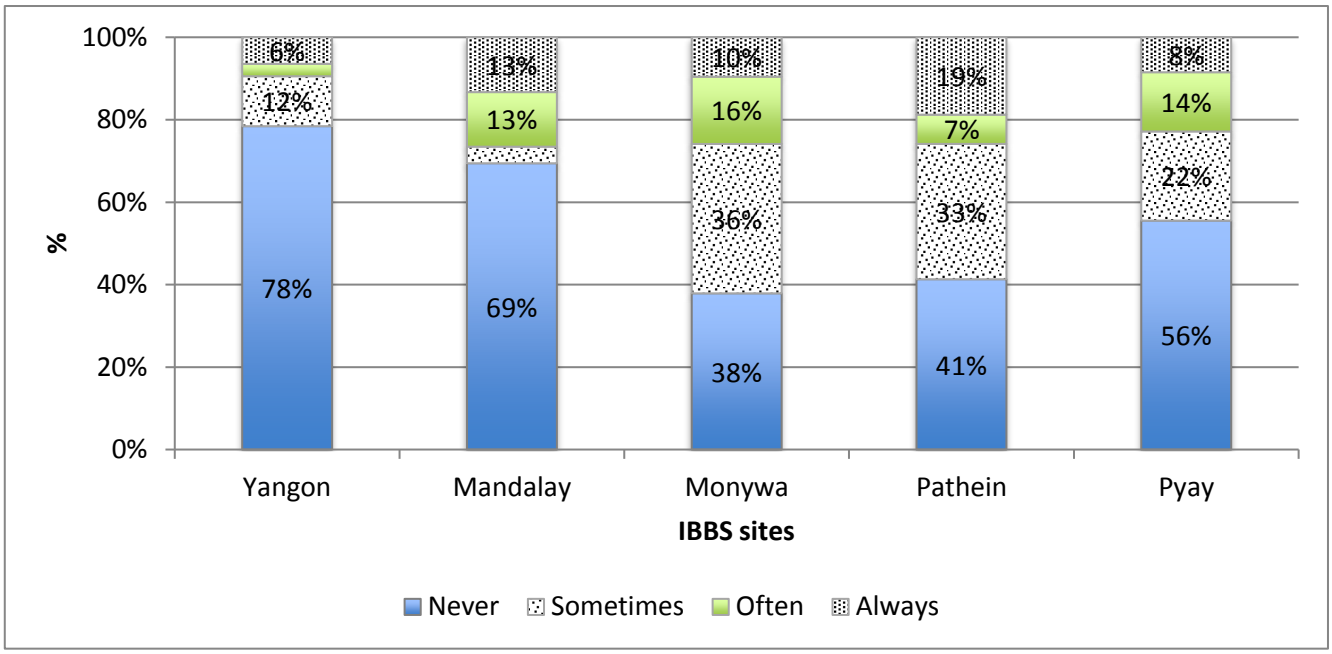
Denominator: All respondents

Figure 20: Proportion of MSM respondents who reported most of their close friends know they have sex with men, by group identity[10]



In addition to openness about MSM identity, respondents were asked about their experience with stigma and discrimination related to their being MSM. Except for Yangon, one quarter of MSM respondents reported often or always pretended not to be Tha Nge/Apwint/Apone in the last 12 months.

Figure 21: Frequency of pretending not to be Tha Nge/Apwint/Apone in the last 12 months reported by MSM respondents



Denominator: All respondents

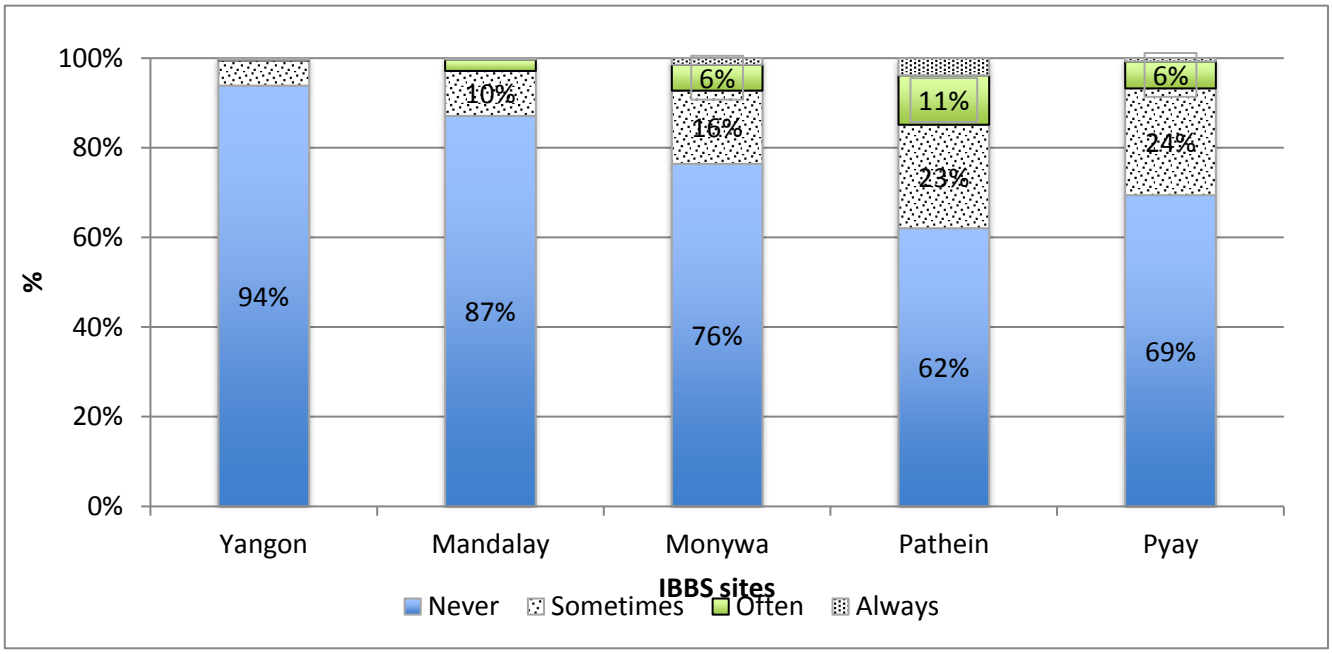
This proportion is smaller than expected given the low proportion of respondents who said that most of their family knew they had sex with men. Another surprising result was that Yangon had the highest proportion

[10] Estimates for disclosure to close friends by group identity did not reach convergence in Yangon.

of respondents who said they never pretended not to be MSM, despite having lower levels of disclosure of MSM identity to close friends and family compared to other sites.

Barrier to seeking health care is another important dimension of stigma and discrimination to assess. Less than 15% of respondents in Yangon and Mandalay felt afraid to seek health care in the last 12 months, due to their MSM identity. This contrasts to about one third of respondents sometimes, often or always feeling afraid to seek health care in Pathein and Pyay. Patterns in perceived stigma and discrimination in health care settings did not follow the same pattern for generally pretending not to be MSM. This suggests that MSM-friendly services can be provided independent of general social attitudes towards MSM.

Figure 22: Frequency of being afraid to seek health care because of being Tha Nge/Apwint/ Apone in the last 12 months, reported by MSM respondents



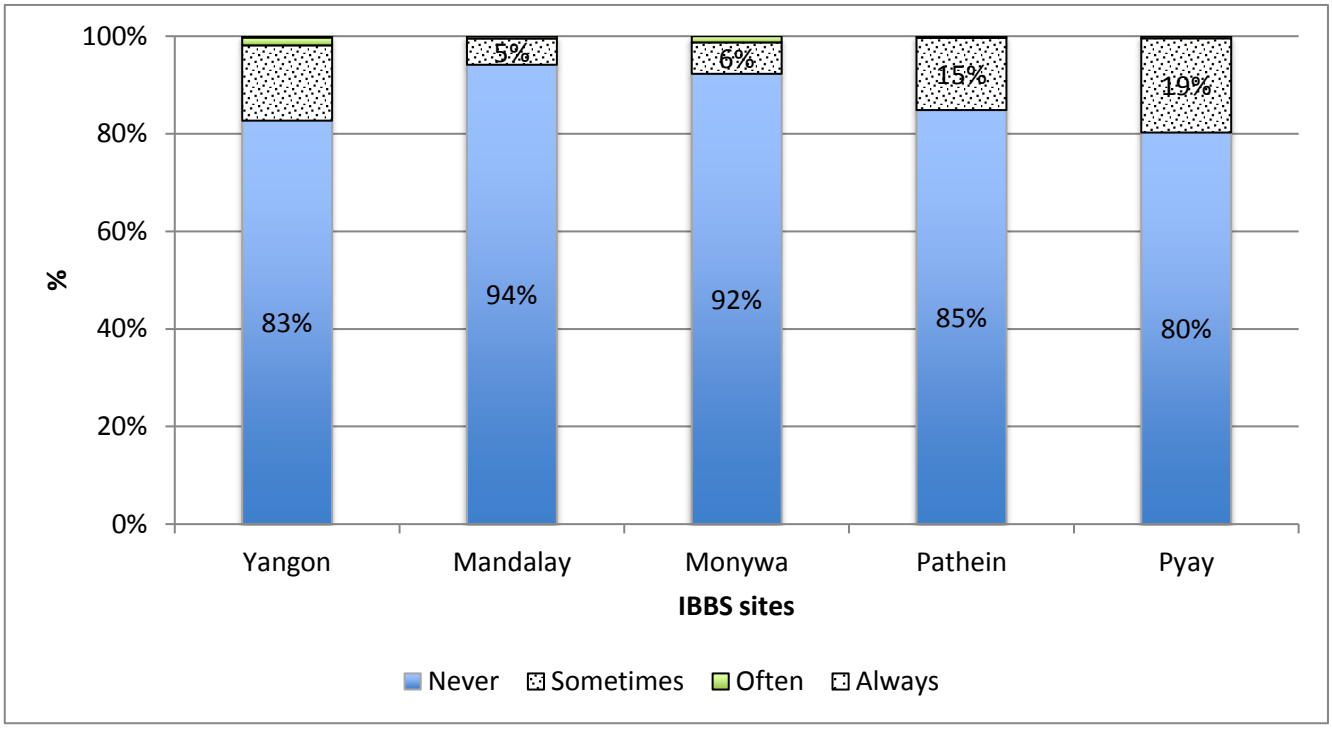
Denominator: All respondents

Besides perceived stigma and discrimination or self-censoring behavior to avoid stigma and discrimination, respondents also reported on experience of physical abuse or harassment related to being MSM. Less than one fifth of respondents report sometimes being beaten or hit for being MSM in the last 12 months. This proportion was lowest in Mandalay (5%) and Monywa (6%).

Police related harassment for being MSM was a more common experience in Mandalay compared to general physical abuse. About one fifth of respondents in Mandalay reported often or always being harassed by police related to being MSM. This is compared to less than 5% of respondents in the other four sites. This pattern was surprising given the higher proportion of respondents who said most close friends and most family knew they had sex with men in Mandalay compared to other sites.

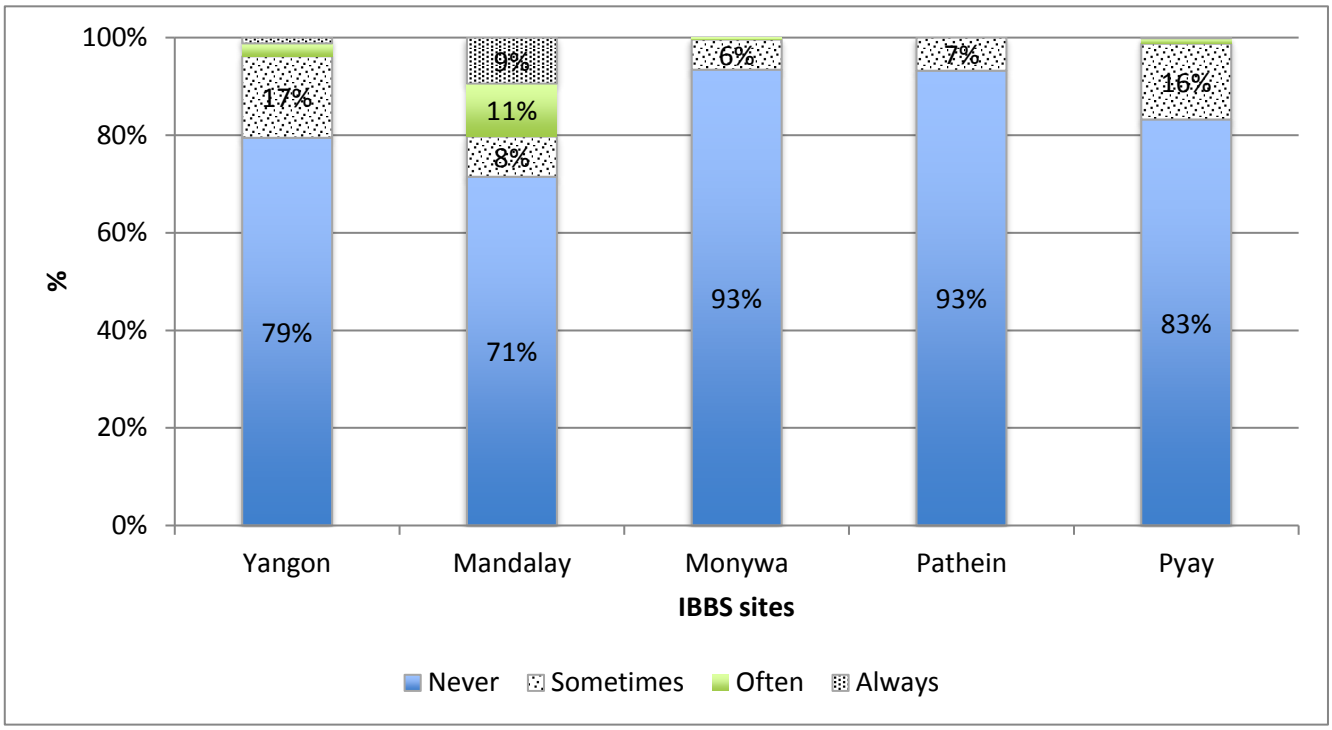
Respondents were also asked about their experience with sexual violence, specifically being forced to have sex against their will in the last 12 months. The highest level of this type of abuse was reported in Pyay, where two-fifths (42%) of respondents said this sometimes happened. In Yangon, Monywa, and Pathein between 15-20% of respondents also described forced sex as 'Sometimes' happening to them. Only 7% of respondents in Mandalay experienced 'sometimes' being forced to have sex against their will in the last 12 months. This pattern is consistent with relative openness about being MSM, and lower levels of being harassed by police or being afraid to seek health care also observed in Mandalay.

Figure 23: Frequency of being beaten or hit in the last 12 months because of being Apwint/Apone/Tha Nge, reported by MSM respondents[11]



Denominator: All respondents

Figure 24: Frequency of being harassed by police in the last 12 months for being Tha Nge/Apwint/Apone, reported by MSM respondents[12]

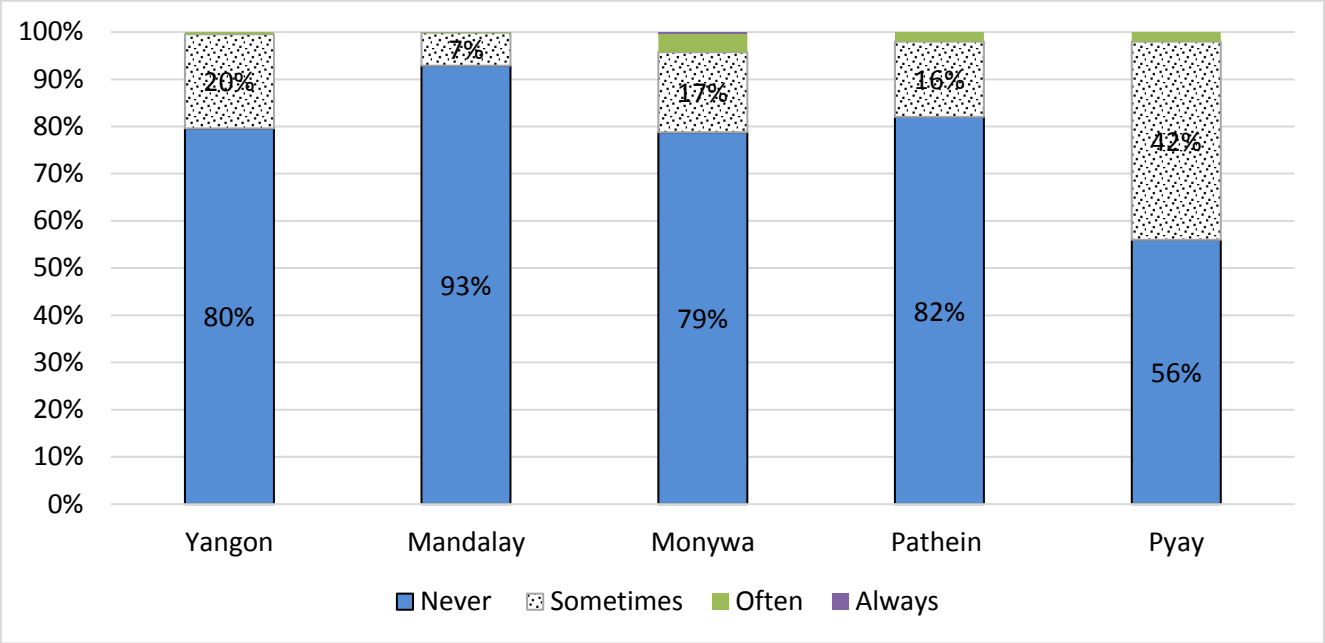


Denominator: All respondents

[11] Estimates for frequency of being hit in the last 12 months did not reach convergence in Yangon.

[12] Estimates for frequency of being harassed by police in the last 12 months did not reach convergence in Yangon.

Figure 25: Frequency of being forced to have sex in the last 12 months, reported by MSM respondents



Denominator: All respondents

Losing a job or being rejected by family or relatives was an uncommon recent experience of respondents in all sites.

5. HIV and STI infection

Overall HIV prevalence among MSM respondents ranged from 6-7% in Monywa, Pathein, and Pyay to over 20% in Yangon[13] and Mandalay. Respondents who reported either urethral/rectal discharge or genital ulcers in the last 12 months varied from 6% Pyay to 19% in Yangon.

Levels of HIV prevalence found in the IBBS for Yangon and Mandalay were higher than recent seroprevalence measured from HIV sentinel surveillance (HSS), but similar to the 2009 IBBS of MSM. As noted earlier, some local stakeholders from Monywa suggested that MSM who were HIV positive were likely not to have participated in the survey and the sample may underestimate the actual HIV prevalence in this site.

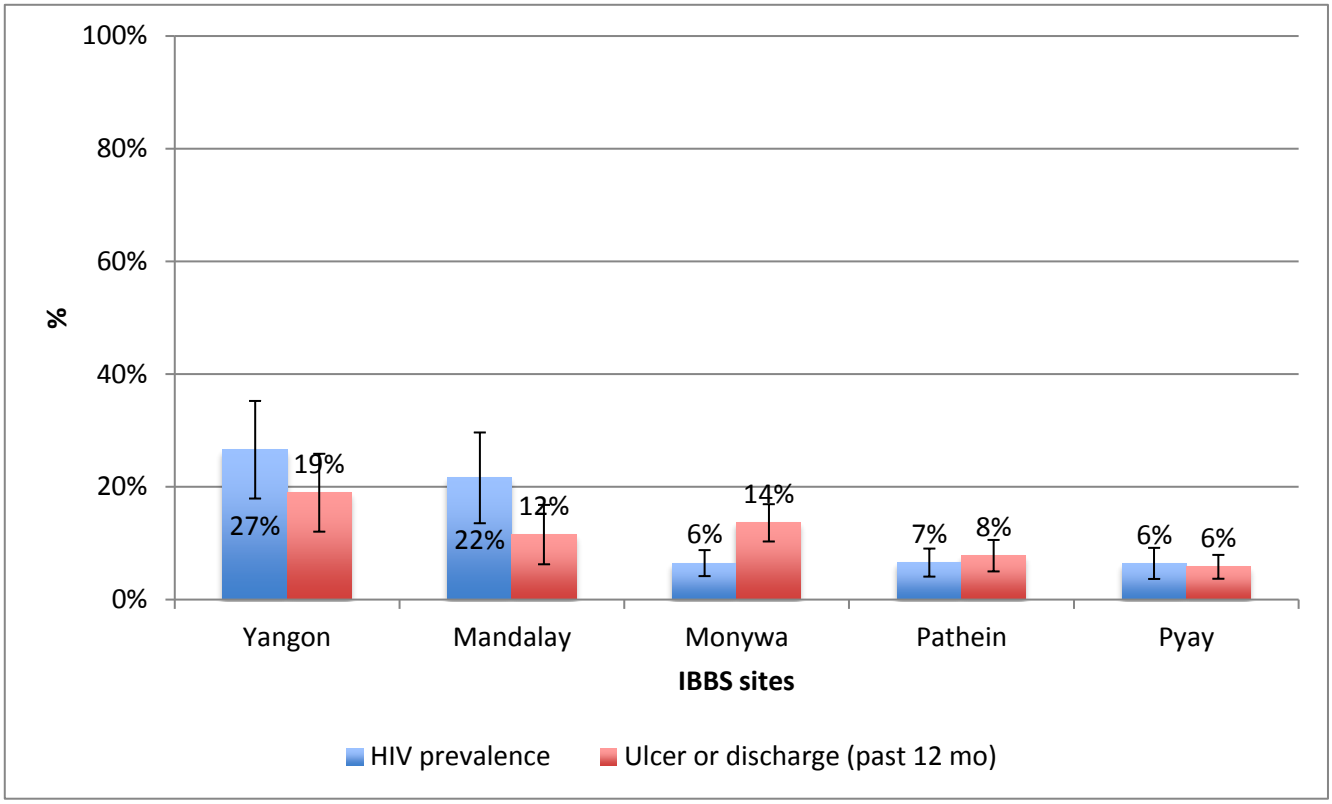
When looking more specifically at type of STI symptom, the proportion of respondents who reported experiencing genital discharge were not significantly different across sites, ranging from 3-7%. Larger differences were observed in proportion experiencing recent genital ulcers. In Monywa, 12% of respondents reported genital ulcers in the last 12 months compared to 3% in Pyay and 5% in Pathein.

Sub-group analysis showed significantly lower HIV prevalence among Tha Nge compared to Apwint/Apone; younger age groups (<25 years), and those who had a shorter time period of having sex with men (=< 1 year).

Measuring HIV prevalence by group identity show that in sites with lower overall HIV prevalence, HIV prevalence among Apwint exceeds 15%, suggesting a relatively advanced epidemic among this group.

[13] Estimates for HIV prevalence did not converge in Yangon.

Figure 26: Proportion of MSM respondents who were HIV positive or had recent symptoms of STIs



Denominator: All respondents

Figure 27: Comparison of HIV prevalence among MSM respondents measured in IBBS and HSS

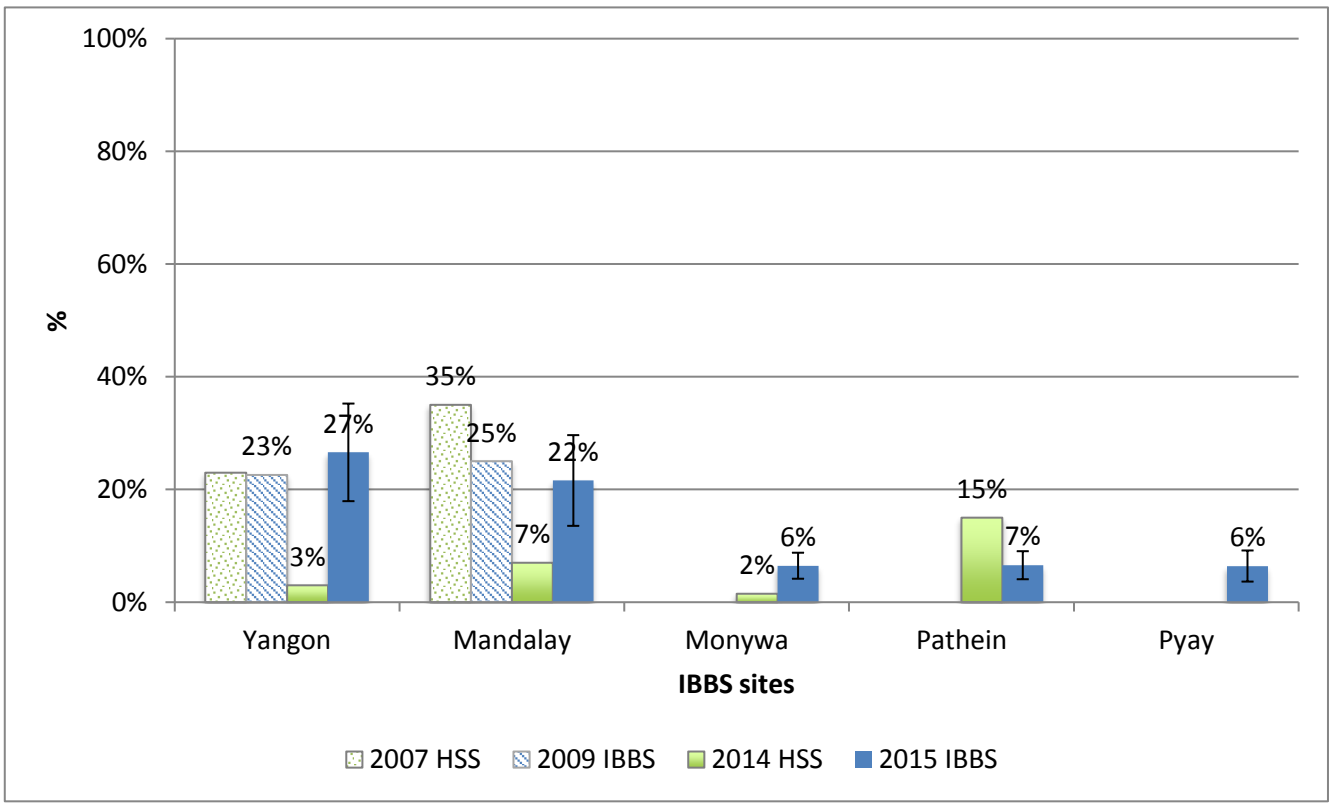
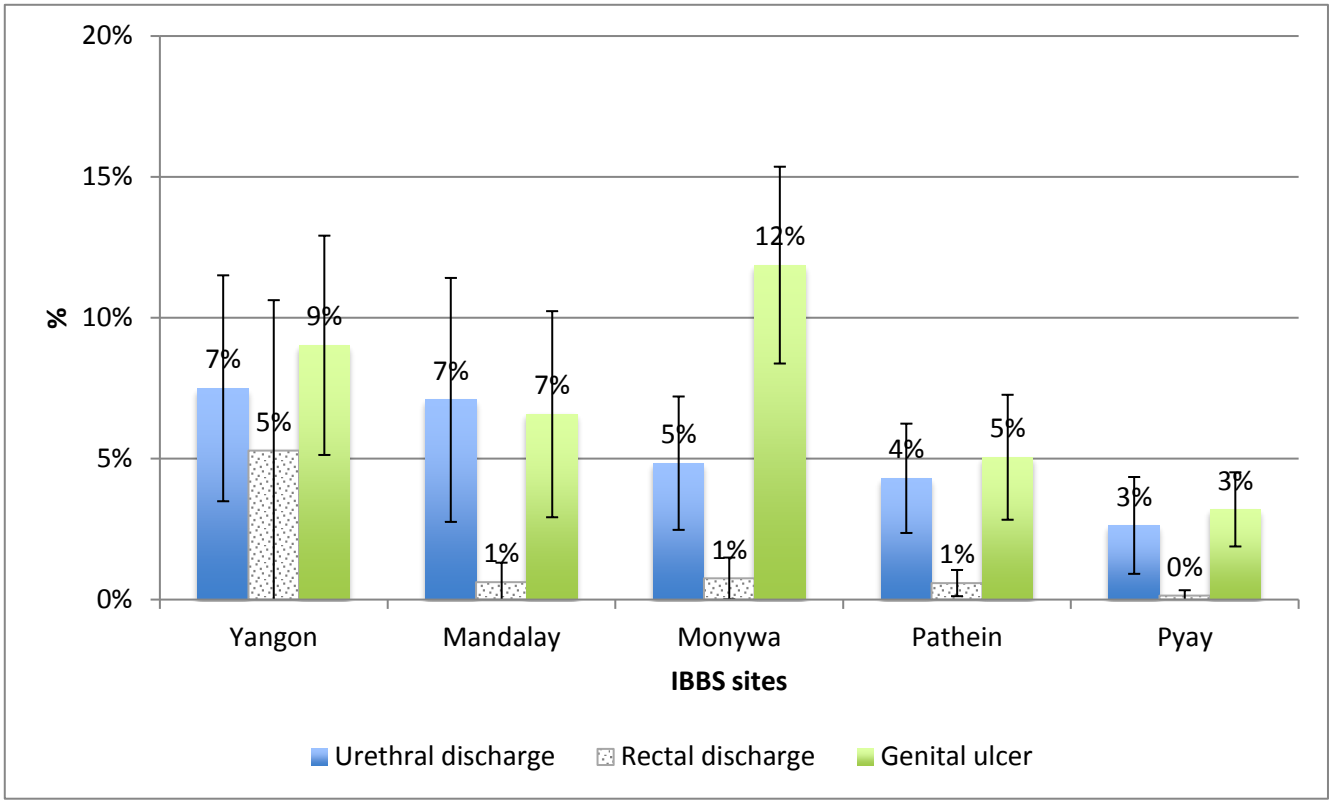
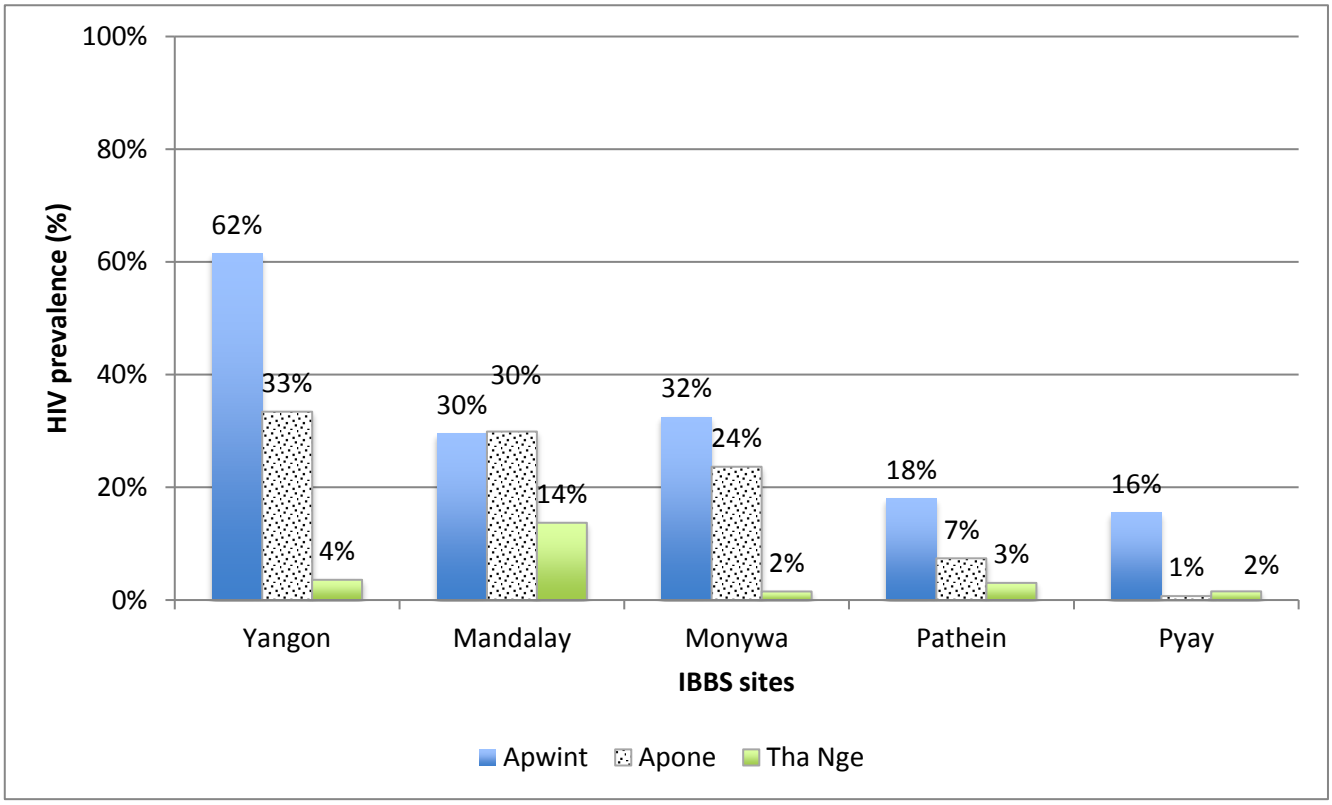


Figure 28: Proportion of MSM respondents reporting genital discharge or ulcer in the last 12 months[14]



Denominator: All respondents

Figure 29: HIV prevalence among MSM respondents, by group identity

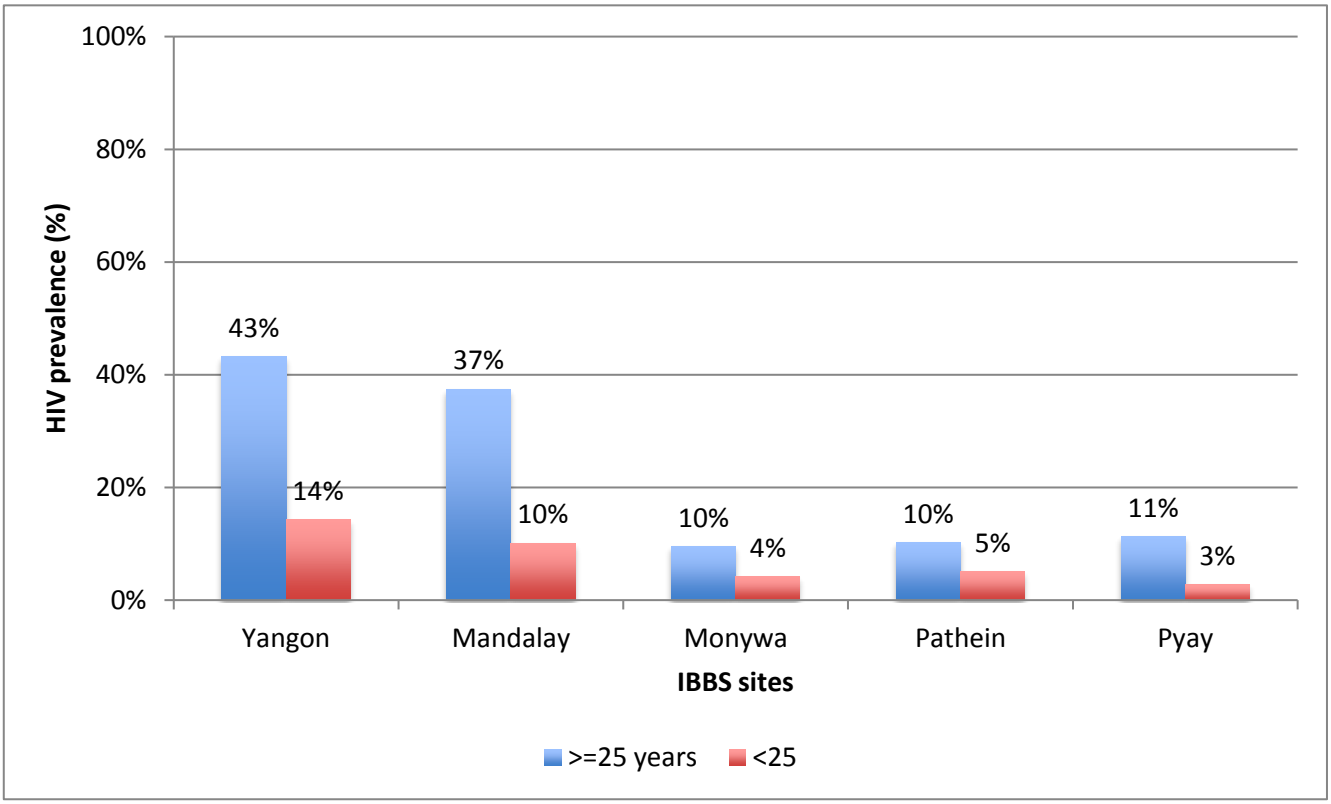


[14] Estimates for having urethral discharge in the last 12 months did not converge in Yangon

In contrast to the other sites, results from Mandalay indicate that even among Tha Nge, HIV prevalence is high and should be explored further to understand differences in the transmission dynamics among Tha Nge in that site compared to other areas.

Young age may also serve as proxy for new HIV infection. In Yangon and Mandalay[15], HIV prevalence among men less than 25 years old is a cause for concern as it is 2-3 times higher than younger MSM in other sites.

Figure 30: HIV prevalence among MSM respondents, by age group



Similarly, a short exposure time, i.e. one year or less of having sex with men, should be associated with a lower prevalence. Many countries look at HIV prevalence among men with a short exposure time, as a proxy for HIV incidence.

Except for Mandalay, we observe very few HIV positive MSM among those with a short exposure period. However, the proportion of men who have had sex with men for one year or less is relatively small, and the point estimates should be interpreted as having wide confidence intervals.[16]

6. Overall sexual practices

Due to lack of social acceptance of MSM in many countries, it may be difficult for MSM to have regular male sex partner compared to having casual male sex partners. Social norms related to having regular male sex partners in different MSM communities may reflect important patterns of risk (e.g. partner change frequency and condom use) and indicate the need for prevention messages specific to sex with regular

[15] Note that estimates for age less than 25 years did not converge in Mandalay. This may affect sub-group analysis using this age categorization.

[16] The proportion of respondents being MSM for one year or less is 20% in Yangon, 14% in Mandalay, 33% in Monywa, 25% in Pathein, and 11% in Pyay.

partners. The proportion of respondents who reported ever having a regular male sex partner varied by site: from 20-30% in Yangon, Monywa, Pathein, and Pyay, to two-thirds of respondents in Mandalay.[17]

Figure 31: HIV prevalence among MSM respondents, by duration of sexual activity with men

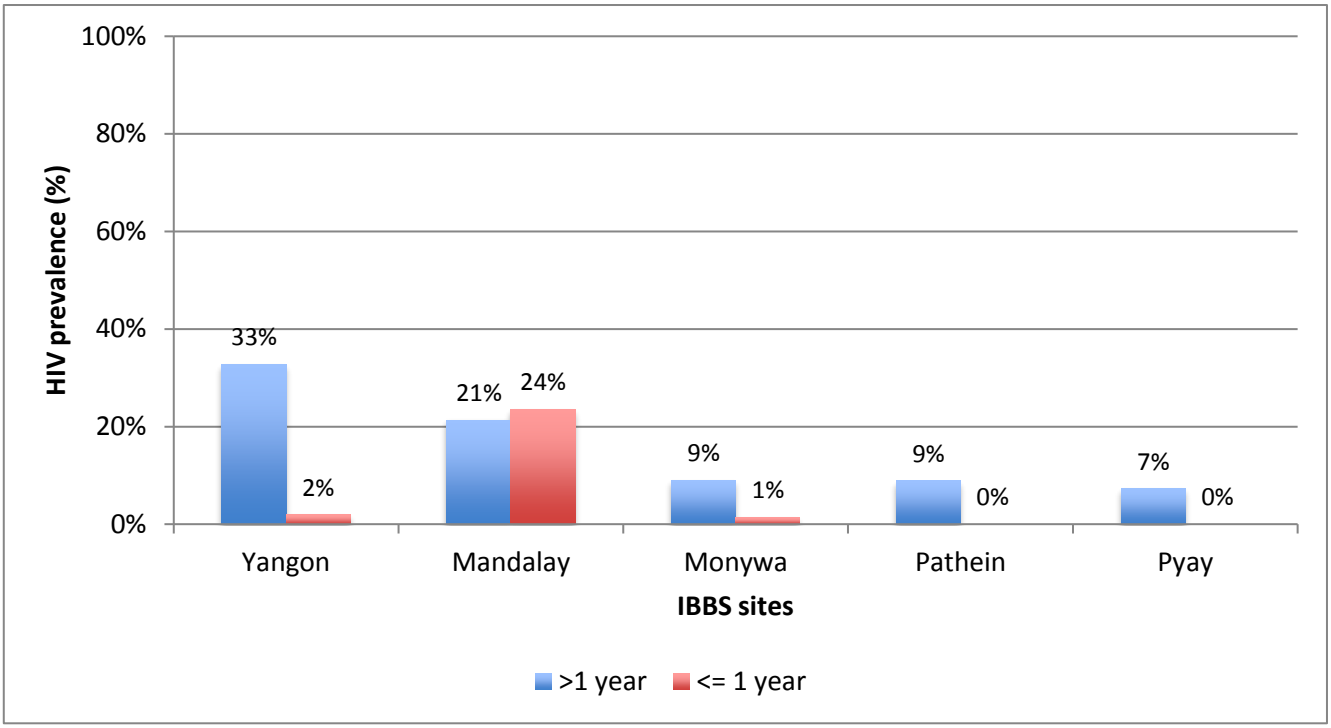
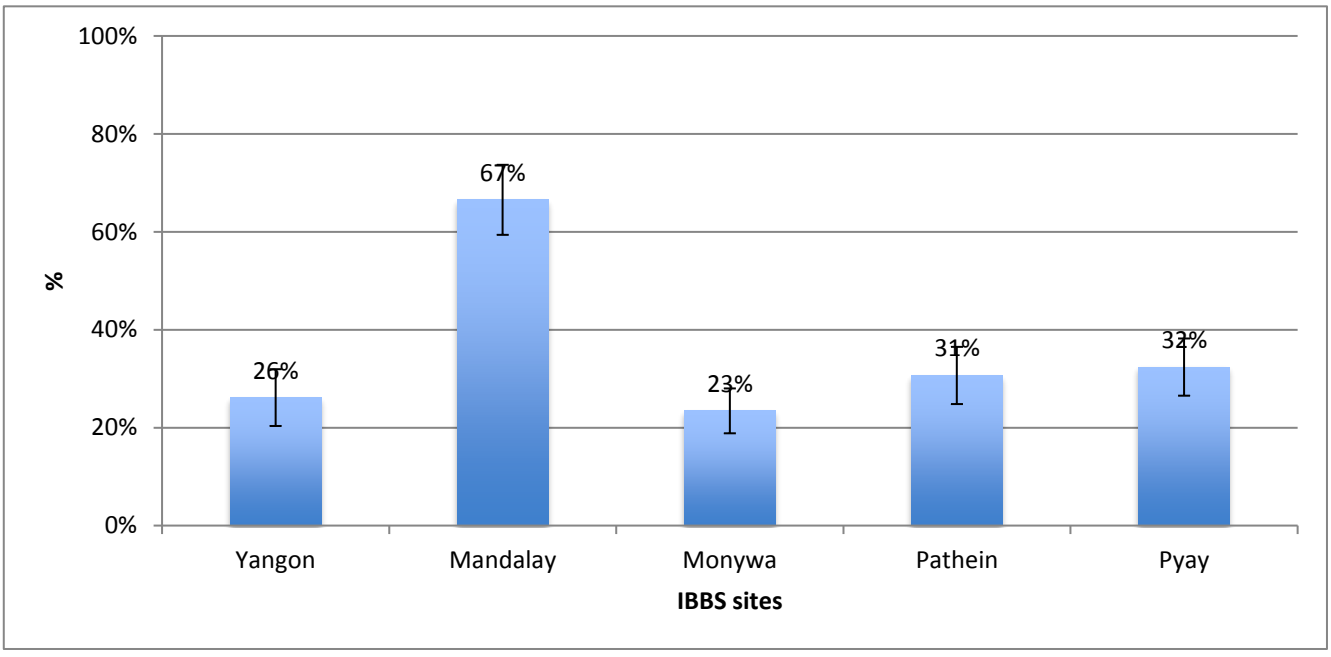


Figure 32: Proportion of MSM respondents who ever had a regular male sex partner



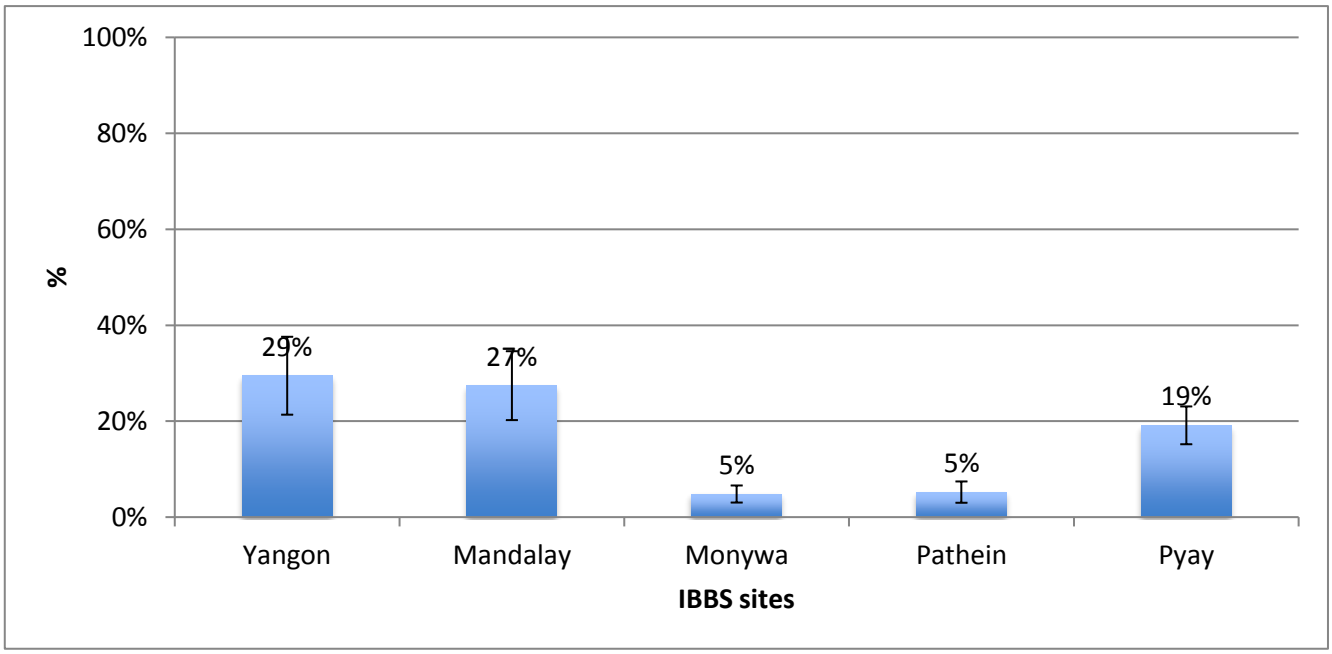
Denominator: All respondents

Commercial sex is generally associated with higher HIV risk, and is important to assess. Respondents of the MSM reported whether they had ever engaged in sex with a male commercial sex partner (either buying or

[17] Estimates for ever having a regular partner did not converge in Yangon or Pyay.

selling sex). In Yangon, Mandalay, and Pyay about one quarter of MSM had ever had commercial sex;[18] compared to only 5% in Monywa and Pathein. More detailed behavior in the last 12 months broken out by buying sex and selling sex from/to men is provided in a subsequent section.

Figure 33: Proportion of MSM respondents who ever had a male commercial sex partner



Denominator: All respondents

Due to the correlation between receptive anal sex and increased risk of HIV transmission, assessing the usual anal sex position of MSM is important to assess. The survey included questions about ever anal sex position, usual anal sex position in the last 12 months, and usual anal sex position in the last 12 months with regular partners and casual partners. We found very little variation over time or by partner type in the reported anal sex position. For 95% or more of respondents the anal sex positions ever taken was/were the same as the response given for usual sex position in the past 12 months; and usual anal sex position in the last 12 months was the same as their usual sex position with a regular partner. A similar level of consistency was found comparing usual sex position and the usual position with casual partners.

When asked about ever experience with group sex, between 8-13% of respondents in all sites reported engaging in this risk behavior.

7. Number of regular and casual partners

Results from asking MSM respondents to estimate the total number of male anal sex partners (including regular, casual, and commercial sex) they had in the last 12 months shows great diversity within each site. Between 22-49% of respondents had less than 5 partners in the last 12 months. On the other side of the spectrum, between 14-43% of respondents had 20 or more anal sex partners.
When we calculated the total numbers of male partners in the last 12 months by group we found results consistent with the stark differences in HIV prevalence between Apwint and Tha Nge.

For example, the median number of anal sex partners among Apwint respondents ranged from 20-40 partners across all sites, compared to 3-7.5 partners for Tha Nge. However, the median number of anal sex partners reported by Apone did not show a predictable pattern. In Yangon and Mandalay, the median

[18] Estimates for ever having a commercial sex partner did not converge in Yangon or Pyay.

number of partners among Apone respondents was similar to Tha Nge, however, HIV prevalence was much higher among Apone compared to Tha Nge individuals.

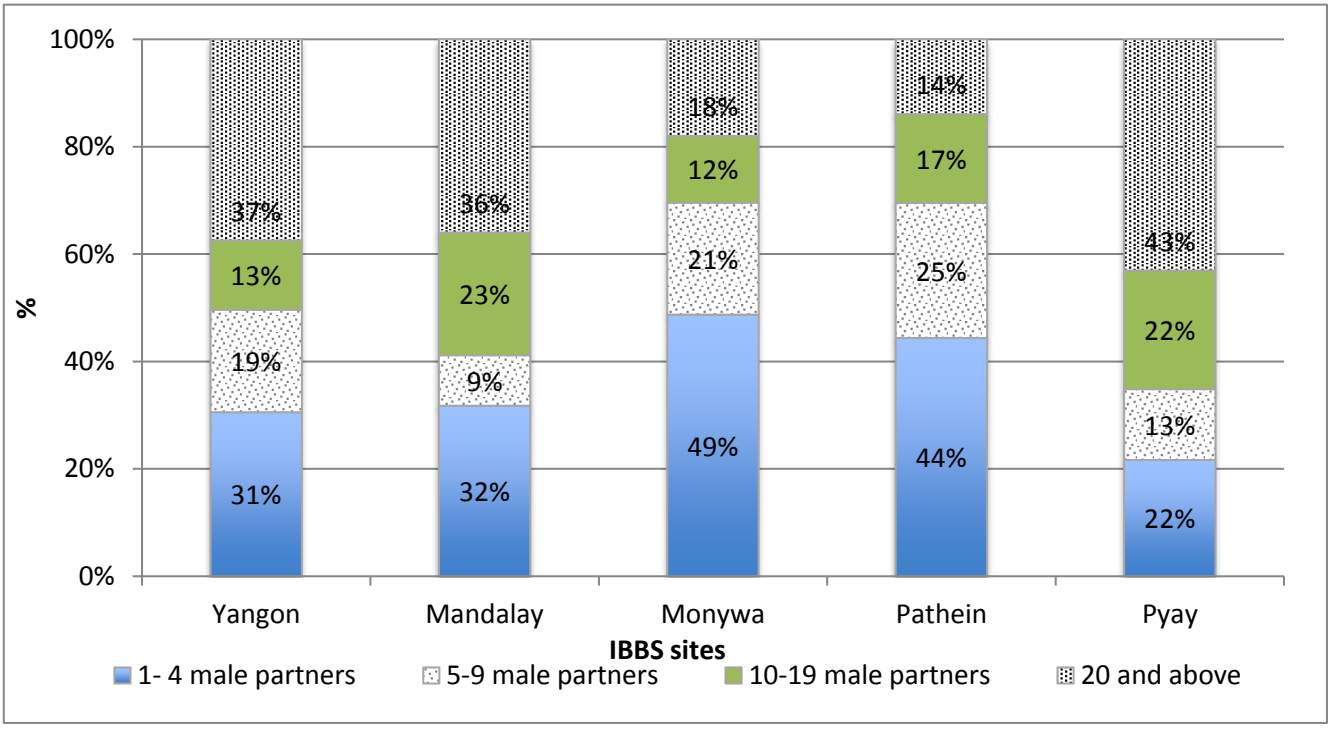
In Pyay, the median number of anal sex partners reported by Apone respondents was three times higher than Tha Nge respondents, but HIV prevalence estimates were about the same in these two groups. The more complex relationship between HIV infection and partner number among Apone clearly reflect other factors including condom use and usual anal sex position. It is also important to note that in most sites Apone comprise a smaller proportion of the sample which may result in less reliable/precise estimates.

Respondents also reported the number of male anal sex partners and number of anal sex acts with men they had in the last month. The median number of male anal sex partners was 1 in Monywa and Pathein, compared to 2 in Yangon, Mandalay, and Pyay. The median number of sex acts ranged from 3 in Pathein to 5 in Yangon, Mandalay and Pyay.

These data suggest that MSM respondents in all sites tended to have sex multiple times with the same male partner. However, the questionnaire cannot distinguish multiple sex acts in the same day or encounter from multiple meetings with a partner.

Across all five sites, a majority of MSM respondents did not have a male regular anal sex partner in the last 12 months. Between 23-47% of respondents had at least one male regular anal sex partner in this period. Respondents in Mandalay were more likely to have had a recent male regular partner compared to other cities.

Figure 34: Number of male anal sex partners in the last 12 months reported by MSM respondents[19]



Denominator: All respondents

[19] Estimates for total number of male anal sex partners in the last 12 months did not converge in Yangon and Pyay

Figure 35: Median number of anal sex partners in the past 12 months reported by MSM respondents, by group identity

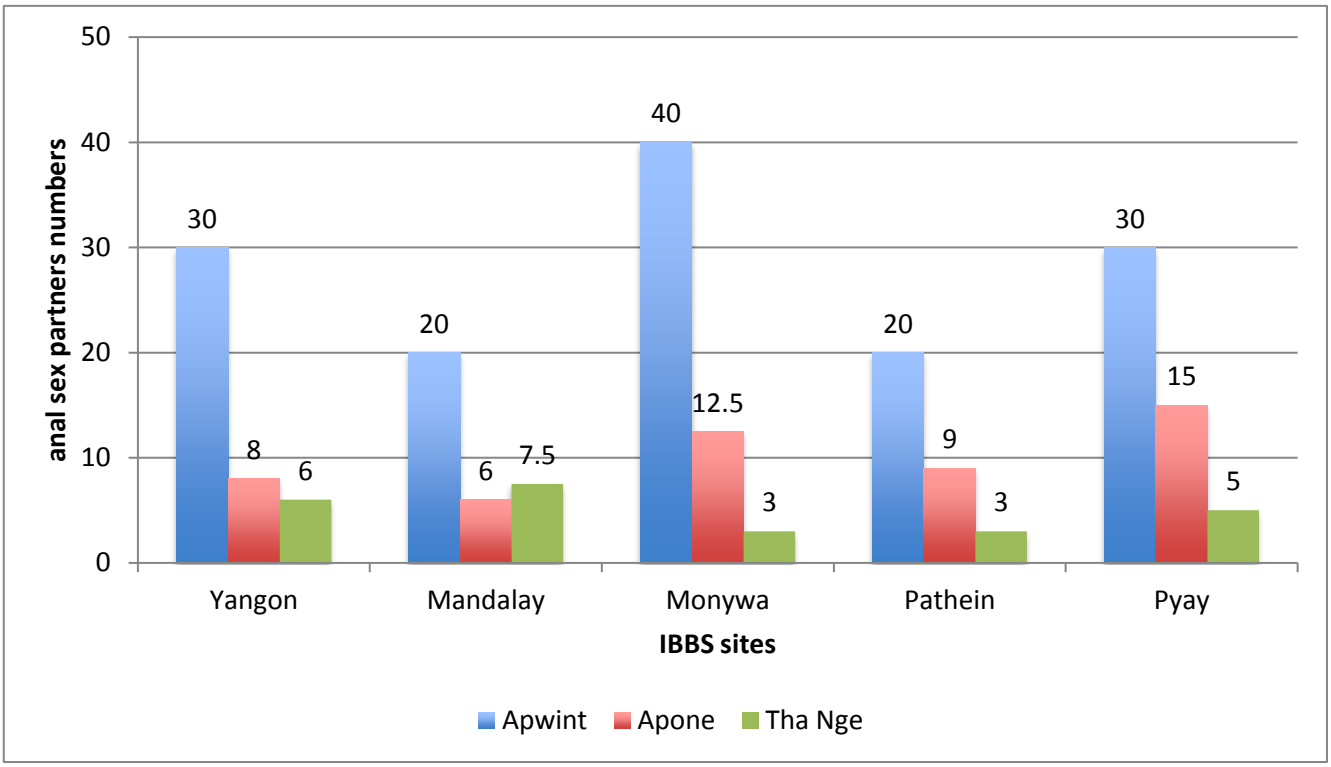
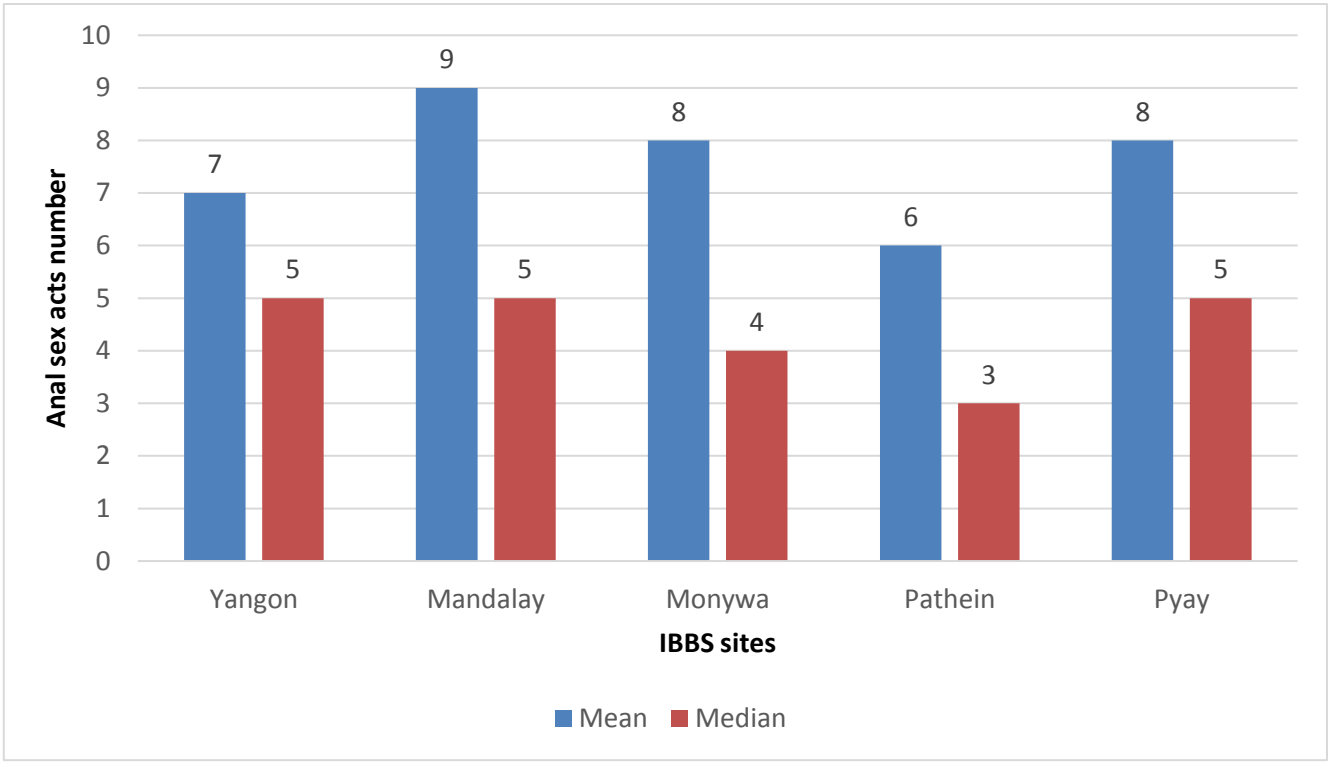
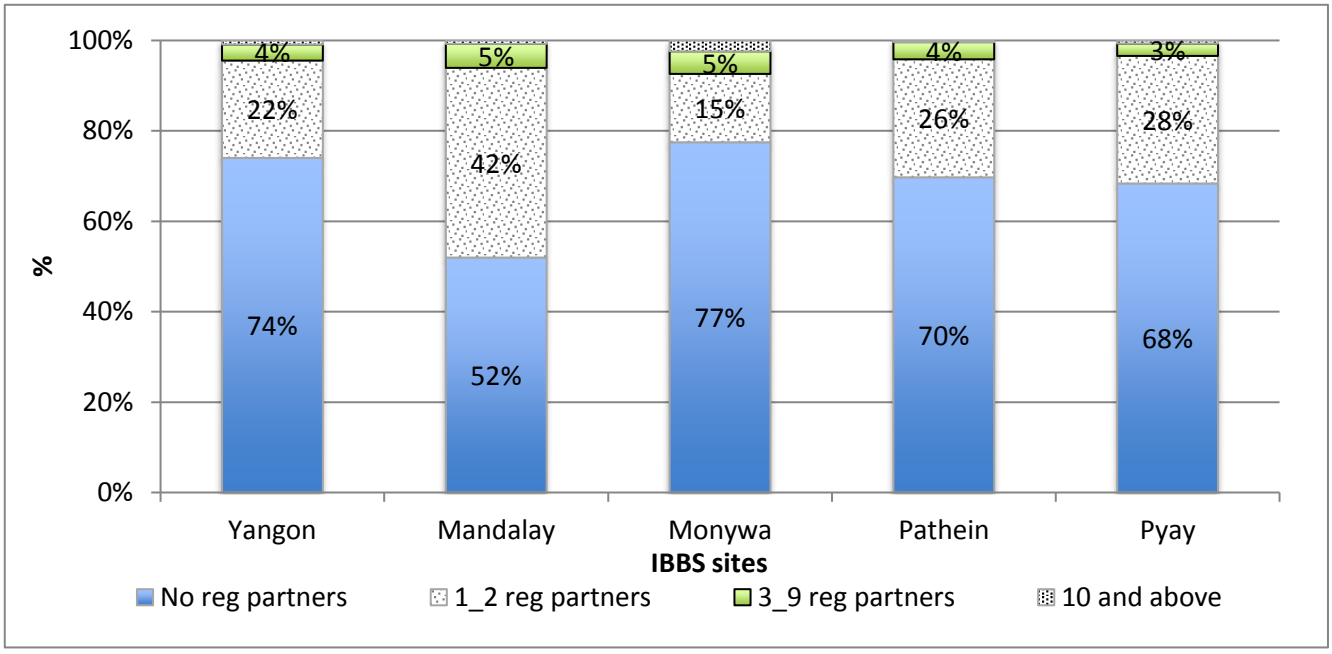


Figure 36: Number of anal sex acts in the past one month reported by MSM respondents



Denominator: All respondents

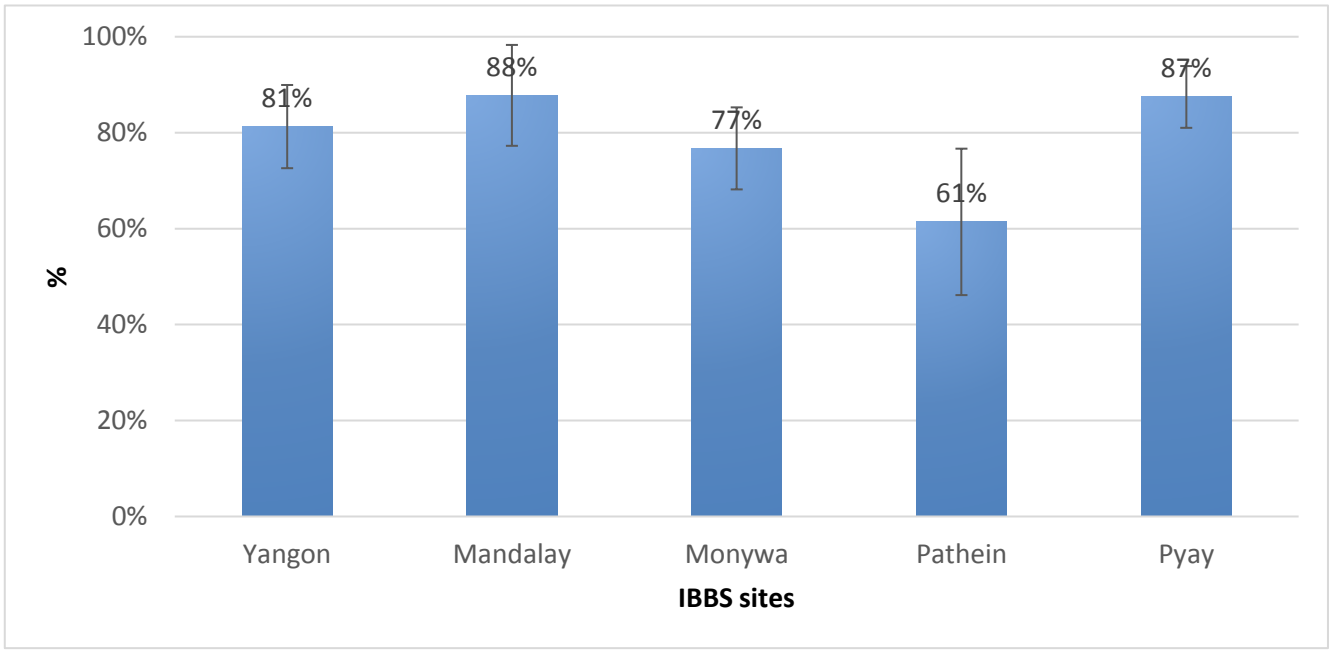
Figure 37: Number of male regular anal sex partners in the last 12 months, reported by MSM respondents[20]



Denominator: All respondents

Among respondents who had a male regular sex partner in the past 12 months, a majority had sex with that partner in the last month, indicating most regular partnerships were active. This percentage ranged from 61% in Pathein to 87-88% in Pyay and Mandalay. There were no sites with statistically significant differences in this measure of sexual activity with regular partners.

Figure 38: Proportion of MSM respondents who had anal sex with a male regular partner in the last month



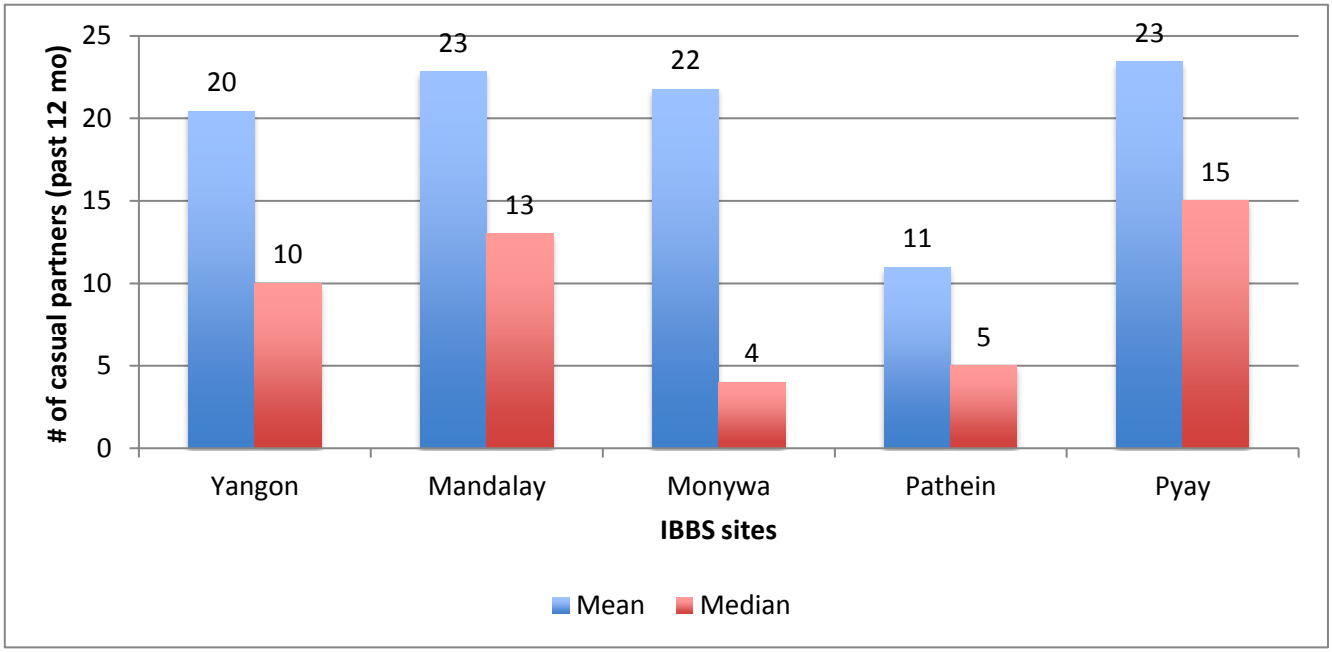
Denominator: Those with a regular anal sex partner in the past 12 months

[20] Estimates for number of regular anal sex partners in the past 12 months did not converge in Pyay and Pathein.

When asked about the number of anal sex acts with a regular partner in the last one month, among those having recent sex with a regular partner, the median number of sex acts was 4-5 times in all sites. This figure is almost the same as the number of anal sex acts respondents had in one month including all partner types and may indicate that those with regular partners may have fewer repeated encounters with casual sex partners.

A higher number of casual anal sex partners is a strong marker of HIV risk. The median number of casual anal sex partners was higher in Pyay, Mandalay, and Yangon, compared to Pathein and Monywa. However, in Monywa, the mean number of partners was similar to the Pyay, Mandalay, and Yangon. The difference between the mean and median values, suggests some individual respondents in Monywa had extremely high numbers of partners compared to others in the sample.

Figure 39: Number of casual anal sex partners in the past 12 months, reported by MSM respondents



Denominator: Respondents who had sex with casual anal sex partner in the past 12 months

When we examined the distribution of number of casual anal sex partners, we observe that in Yangon[21] and Mandalay about 20% of respondents did not have casual sex partners. The survey also found that in Monywa, Pathein, and Pyay, two thirds of those with a recent regular sex partner had concurrent casual sex partners, compared to only half of those with recent regular partners in Mandalay and one quarter of those in Yangon.

When asked about sex with casual partners in the past 1 month, respondents in different sites reported different levels of very recent sexual activity. Again, a majority of respondents who had casual sexual partnerships in the last 12 months also had anal sex with a casual partner in the last month.

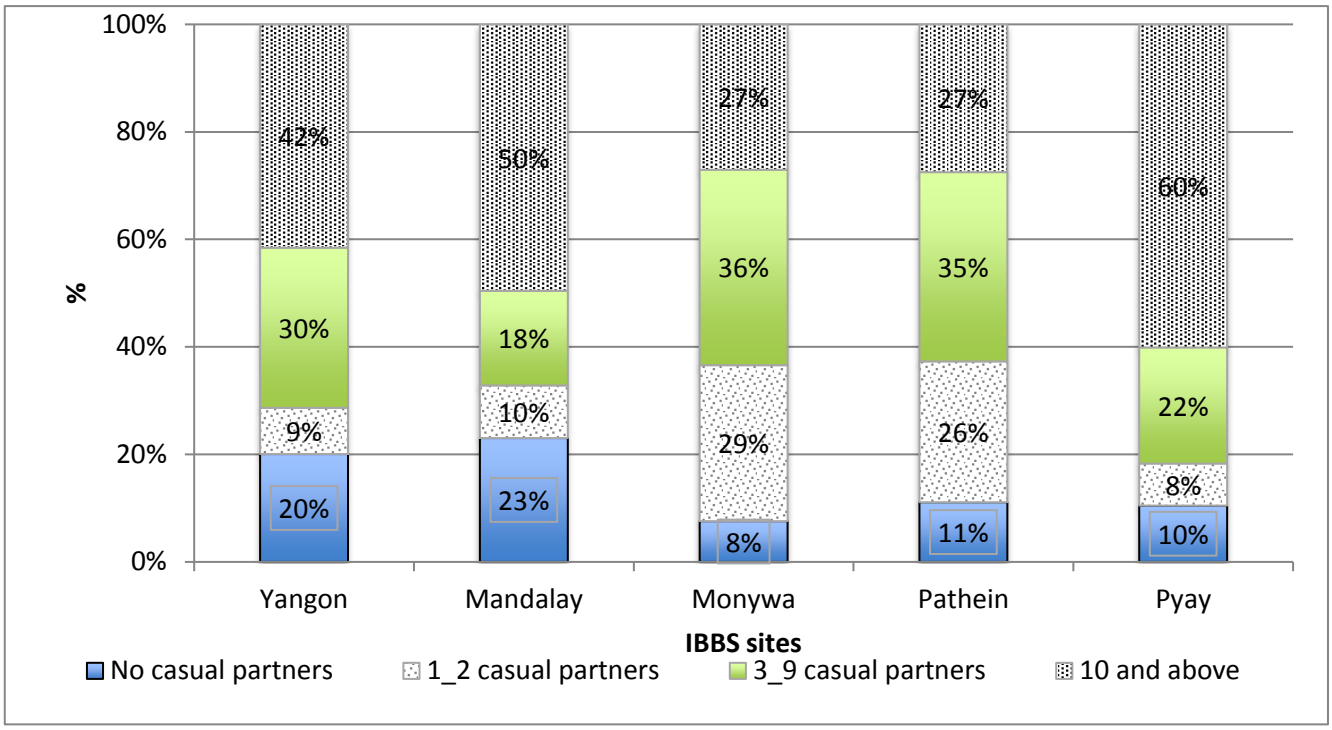
However, only 55% of MSM in Pathein and 64% of MSM in Monywa reported recent casual sex, compared to more than 80% in Yangon, Mandalay, and Pyay. These differences were statistically significant, as measured by non-overlapping confidence intervals.

Among respondents who had a causal male sex partner in the past one month, the median number of anal sex acts was smallest in Pathein (2 sex acts) and highest in Pyay (5 sex acts). These results together suggest that casual anal sex is much more common among MSM; while in Pathein, fewer respondents have casual

[21] Estimates for number of casual anal sex partners in the last 12 months did not converge in Yangon.

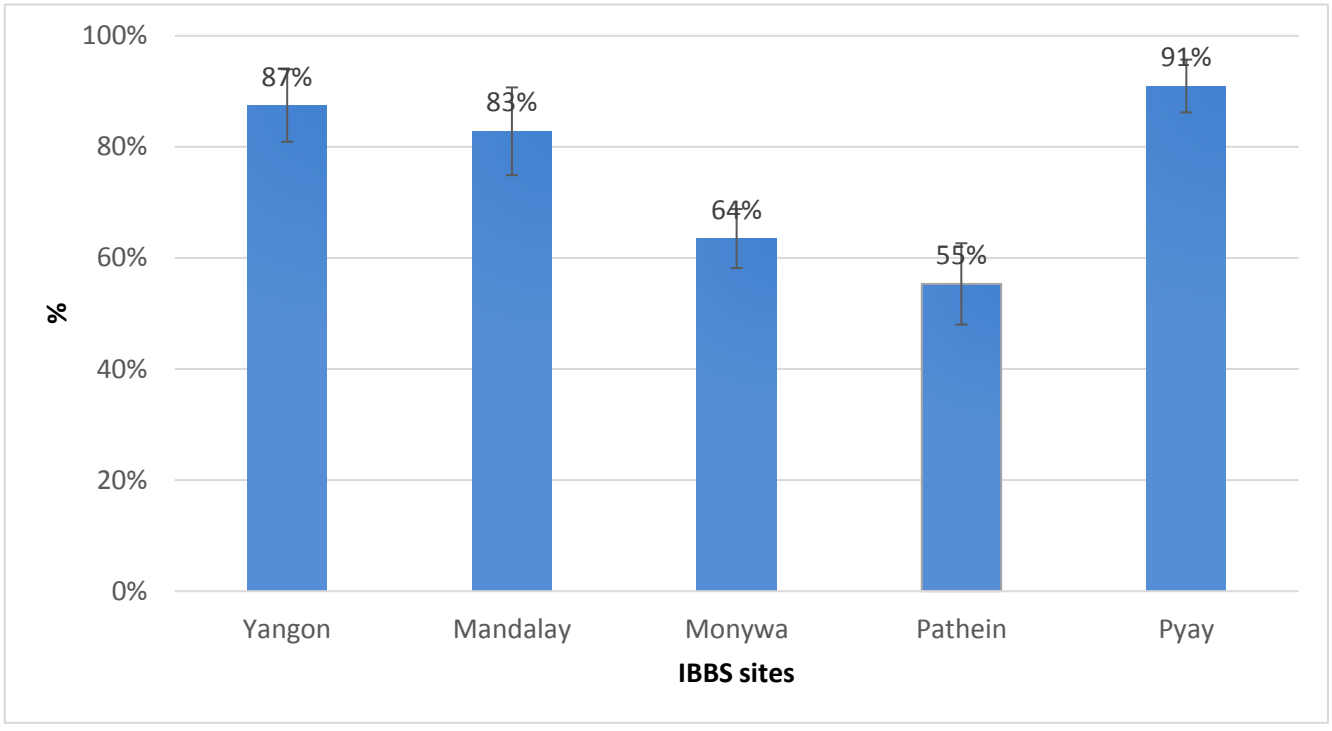
sex partners and when they do fewer multiple encounters/sex acts than in other cities. High frequency casual sex in Pyay is also surprising given the high proportion (87%) of respondents who had a regular sex partner in the last 12 months.

Figure 40: Number of male casual anal sex partners in the last 12 months, reported by MSM respondents



Denominator: All respondents

Figure 41: Proportion of MSM respondents who had sex with a casual partner in the last 1 month



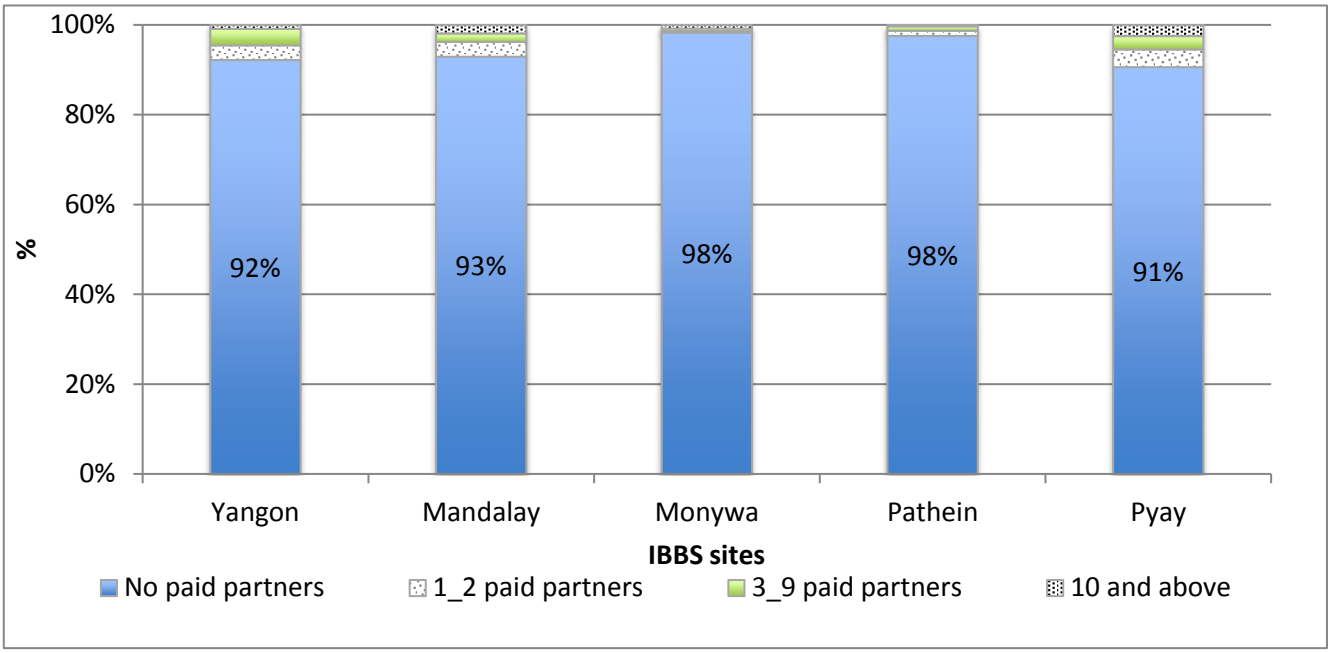
Denominator: Those with casual anal sex partner(s) in the past 12 months

8. Number of commercial sex partners

The respondents of the IBBS were asked to describe experience buying and selling anal sex with other men. More than 90% of respondents said they had not bought sex in the last 12 months.

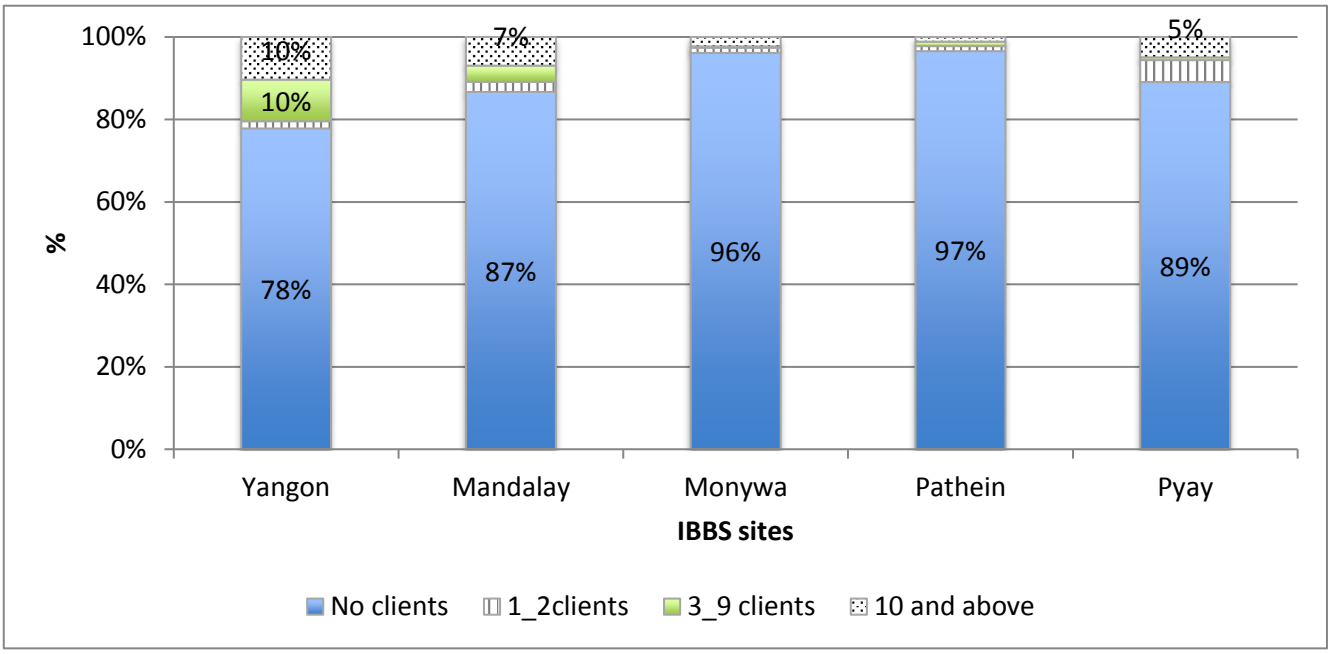
A larger proportion of MSM respondents said they had sold sex in the last 12 months in Yangon and Mandalay. Of the small proportion who had sold sex to other men in the last 12 months, 50% or more had more than 10 client partners during this period.

Figure 42: Number of paid partners in the past 12 months among MSM respondents



Denominator: All respondents

Figure 43: Number of clients in the past 12 months reported by MSM respondents

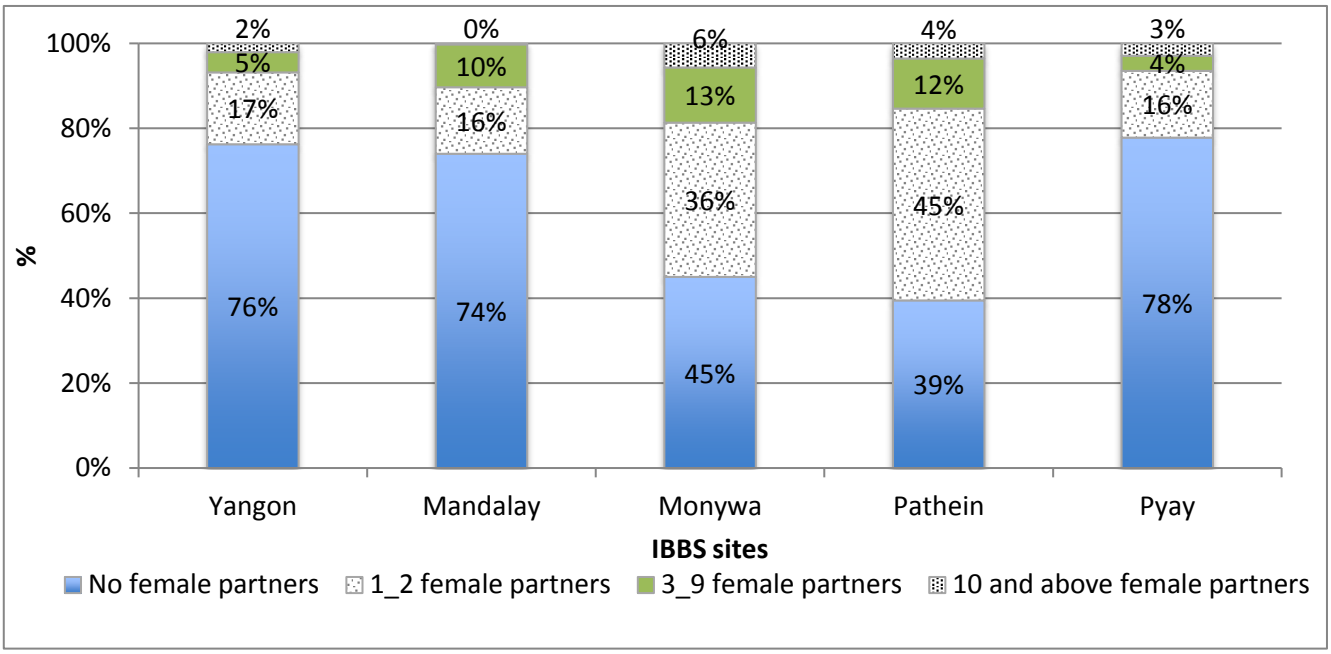


Denominator: All respondents

9. Number of female sex partners

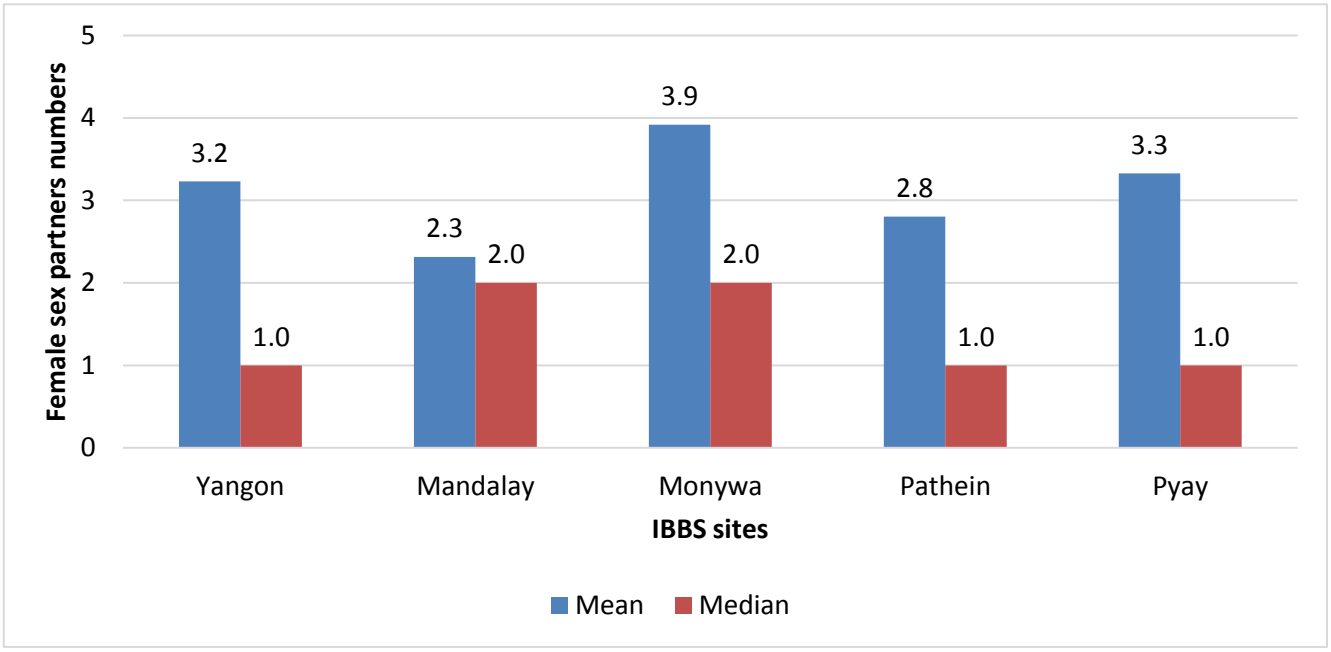
The proportion of MSM respondents who had penetrative sex with a female partner in the past 12 months varied widely across sites: from 22% in Pyay to 61% in Pathein. In Yangon, Pyay, and Pathein the median number of partners among those with at recent female sex partner was one. This may indicate that the female partners a majority of MSM had recent sexual contact with were likely to have been regular female partners, e.g. a spouse. However, in Monywa and Mandalay, the median number of female sex partners was two, suggesting that a majority of MSM in these sites had casual female sex partners.

Figure 44: Number of female sex partners in the past 12 months reported by MSM respondents



Denominator: All respondents

Figure 45: Mean and median number of female sex partners in the past 12 months reported by MSM respondents



Denominator: Those with a female sex partner in the past 12 months

The mean number of female sex partners in Monywa was the highest of all sites at 3.9 partners. This is consistent with the results presented earlier showing that among Tha Nge respondents, 52% were mostly sexually attracted to females, by far, the highest level observed across all five sites.

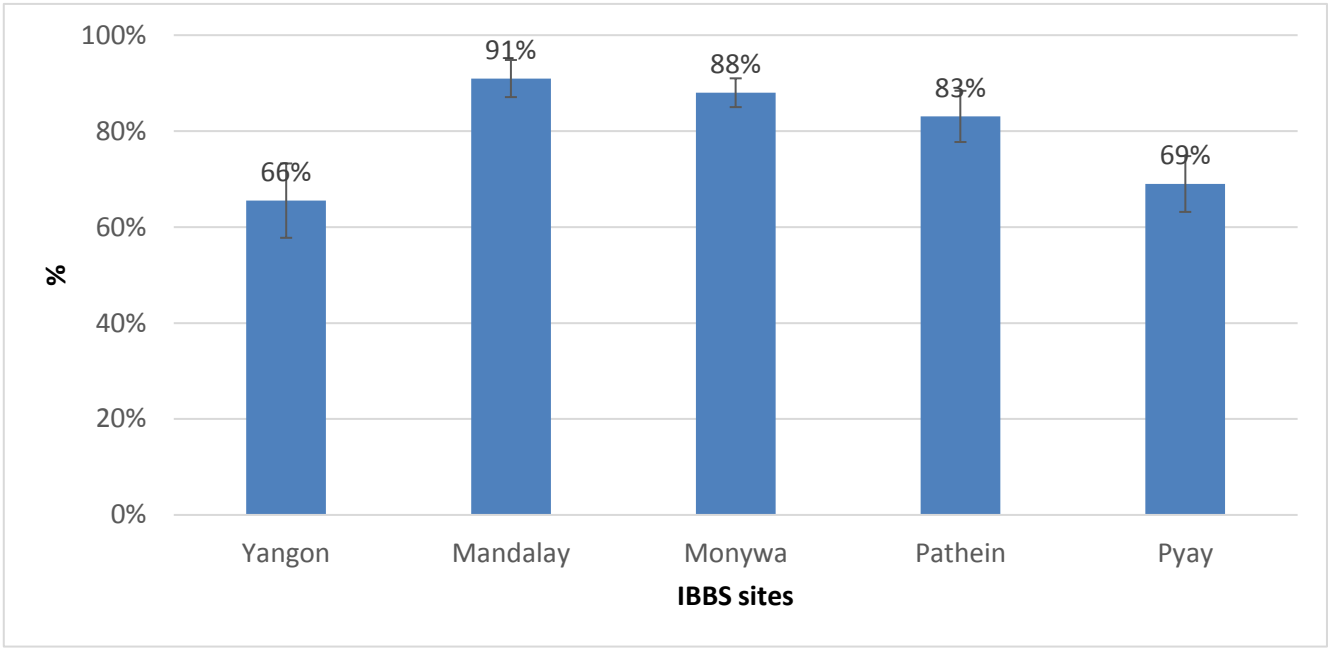
Those MSM currently married or in sexual relationships with women confer some amount of risk to these partners, many of whom may not be aware of their sexual relationships with men and the need to prevent themselves from exposure to HIV by using condoms. Results from this IBBS suggest that transmission to female partners is less of a concern given that the MSM who are most likely to have female partners (i.e. Tha Nge) are also those who have substantially decreased HIV prevalence compared to other groups of MSM (i.e. Apwint and Apone). The exception is Mandalay, where respondents both reported a higher number of recent female sex partners and where there is relatively high HIV prevalence (14%) observed among even Tha Nge respondents. Efforts to reduce transmission to female partners might be appropriate to focus on those who identify as Apone because this group has higher HIV prevalence and for whom a moderately high proportion report having female partners.

10. Protective behaviors – Condom and lubricant use

A. General condom use practices

When asked about condom use with anal sex in the last month, between 66-91% of respondents reported using a condom at last anal sex. Lower levels of condom use were reported in Yangon and Pyay, while the significantly higher levels of last time condom use occurred in Mandalay compared to Yangon and Pyay, as measured by non-overlapping confidence intervals.

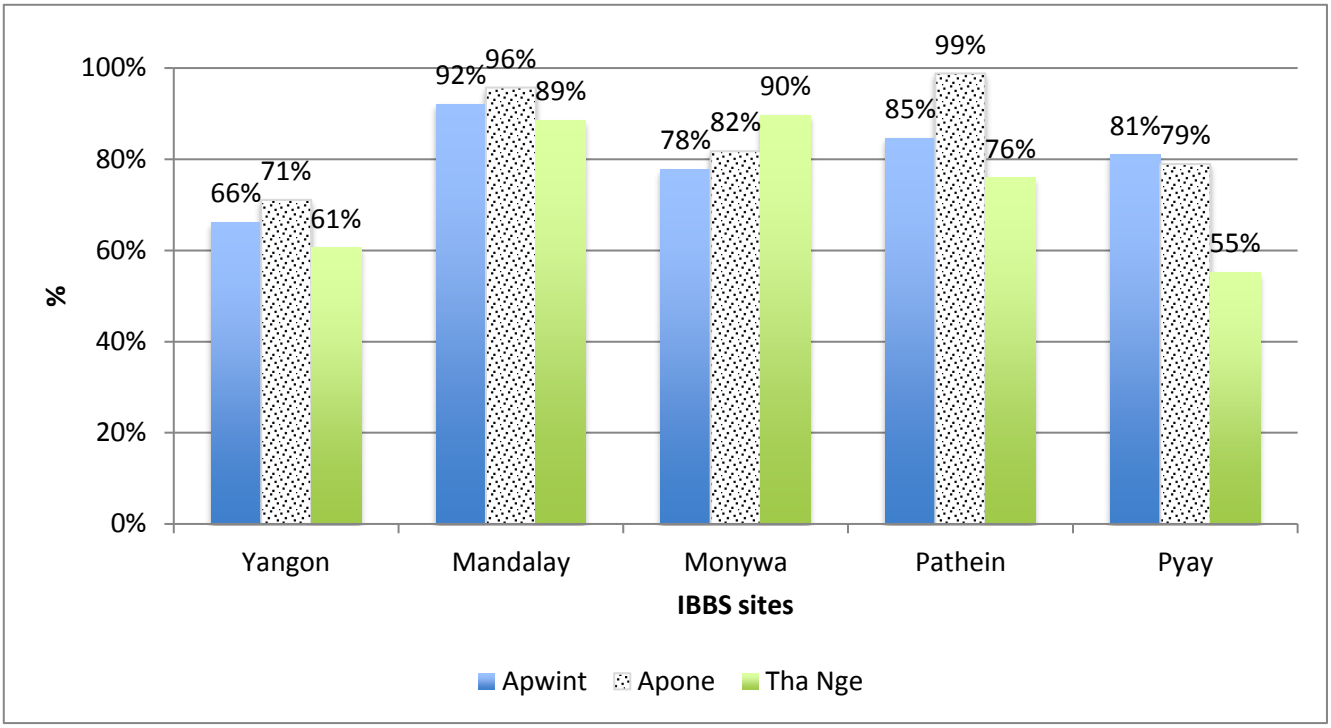
Figure 46: Proportion of MSM respondents who reported using a condom at last anal sex



Denominator: Those who had anal sex in the last 1 month

Stratifying respondents by age less than 25 or 25 and older did not reveal differences in condom use at last anal sex. We also looked for group differences in condom use at last anal sex and found similar levels of condom use among those who identified as Apwint, Apone, and Tha Nge. This might be expected since these three groups are each other's sex partners, so condom use reported by the receptive partner should be similar to condom use by the insertive partner.

Figure 47: Proportion of MSM respondents who used a condom at last anal sex, by group identity



There were similar levels of condom use among those who were HIV positive compared to those who were HIV negative at the time of the IBBS. Condom use at last sex appear not to be correlated to having an HIV test in the last year.

Use of appropriate lubricants, condom quality, and proper use of condoms increase the effectiveness of condom use among MSM. Use of lubricants was most common in Mandalay, where 87% of respondents had ever used lubricants for anal sex. Signficantly lower levels of lubricant use were reported in Monywa (43%), Yangon (49%), and Pathein (52%). However, among those respondents who ever used lubricants, 80% reported that they sometimes or always used lubricants in the last one month.

At last anal sex, between 20-38% of respondents used a lubricant in Yangon, Monywa, Pathein, and Pyay. The level was as high as 67% using a lubricant at last anal sex in Mandalay. It should be noted that more than 10% of all respondents in Yangon and Pyay reported that they used a lubricant alone, without a condom, at last anal sex. To clarify whether an appropriate (i.e. glycerin or gel) lubricant was being used, we asked respondents to describe what they used. We found that the vast majority reported using a correct lubricant.

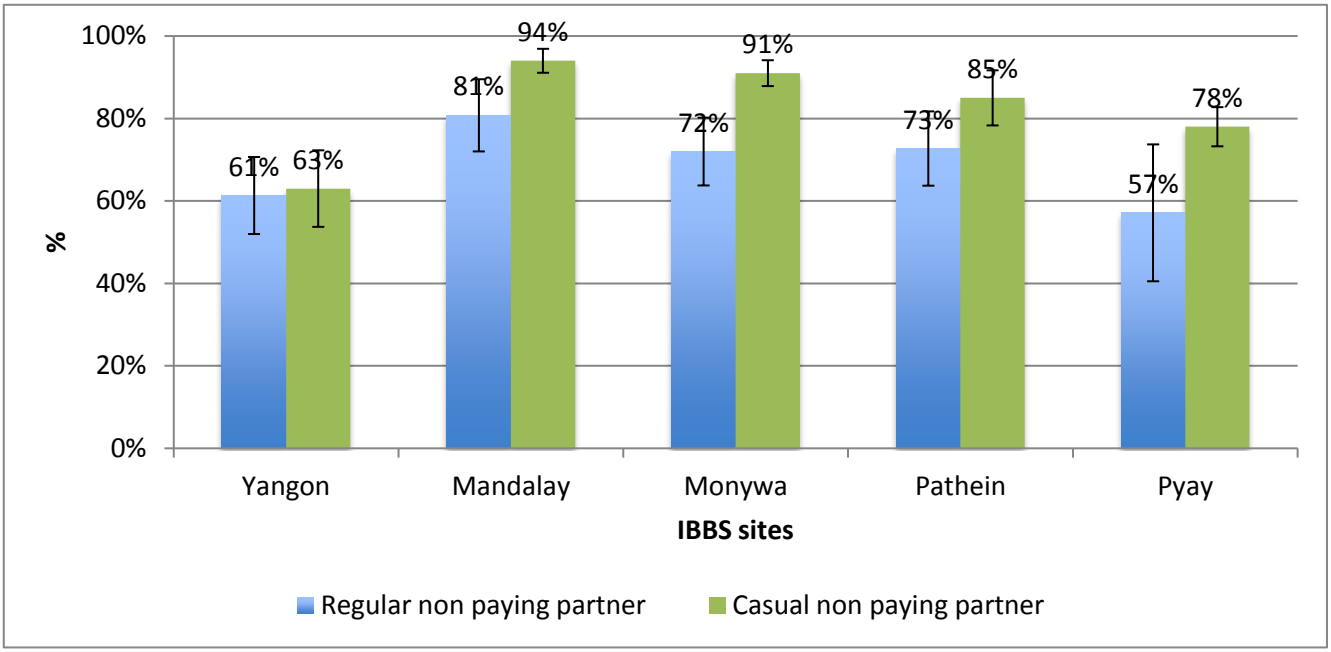
Nearly one quarter of all respondents had ever experienced a condom breaking during sex. However, when reporting on condom breakage in the last month, this proportion dropped to below 10% of all respondents. Among those who ever experienced breakage, the most common reasons given for why the condom broke was violence (27-60% in different sites) and user error (25-51% in different sites).

B. Condom use by partner type

Last time condom use varied by partner type. In Mandalay, Monywa, and Pyay, condom use at last sex with casual partners was significantly higher compared to during sex with regular partners. Although in Yangon, the reported level of last time condom use was almost the same for sex with regular partners compared to casual sex partners.

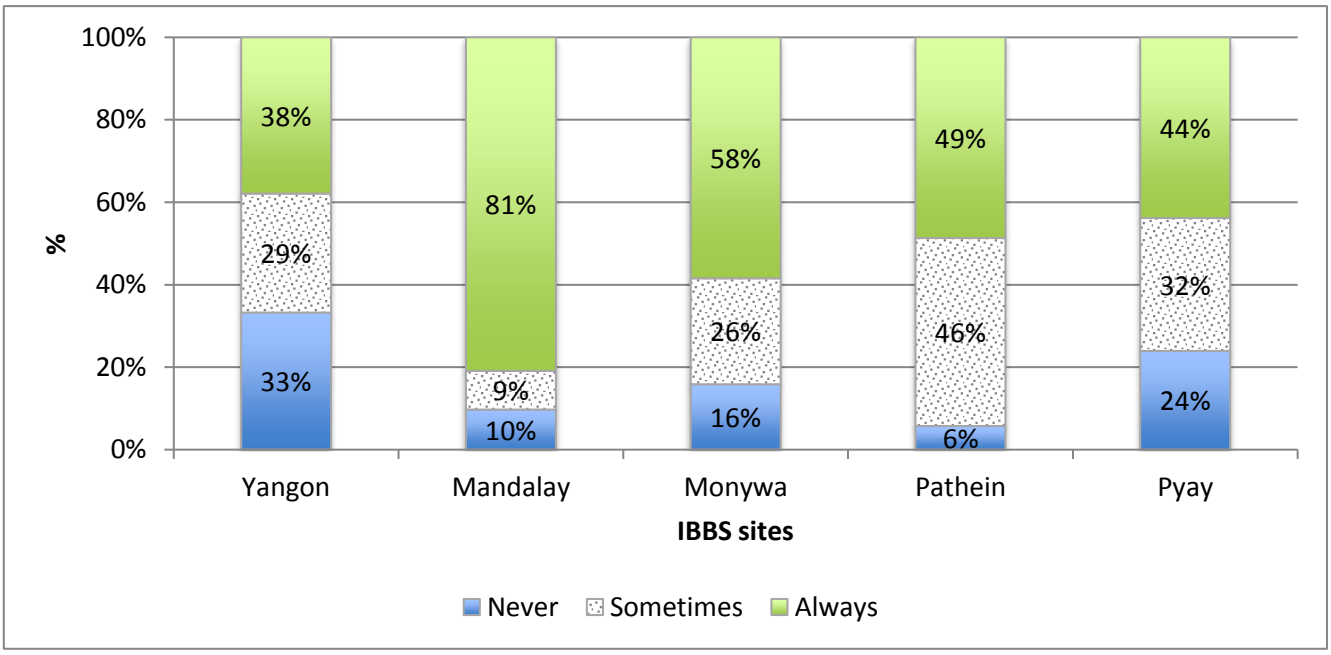
Another important measure of condom use is consistency of condom use over a period of a month.

Figure 48: Condom use at last sex among MSM respondents, by partner type



Denominator: Those having sex with a regular/casual partner in the past 1 month

Figure 49: Consistent condom use with regular sex partner(s) in the past 1 month reported by MSM respondents



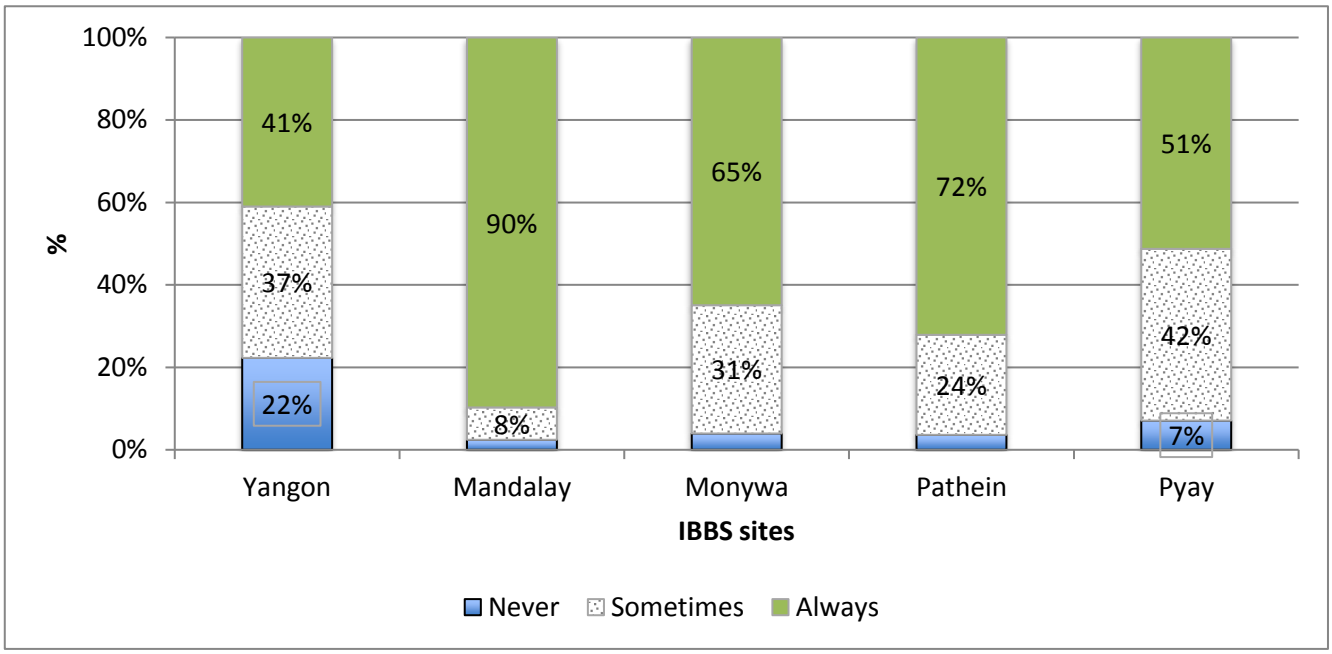
Denominator: Those having sex with a regular partner in the past 1 month

Respondents in Mandalay reported very high levels of always using condoms with regular partners. This is also notable given that Mandalay had the highest proportion of respondents who had a regular male partner in the past 12 months. In contrast, Yangon respondents reported the lowest levels of always using condoms and the highest levels of never using condoms with regular sex partners.

We observed a similar pattern for consistent condom use with casual partners, where 90% of respondents from Mandalay reported always using condoms with casual partners in the past one month. And 22% of

respondents with recent casual partners in Yangon reported never using condoms. Lower levels of condom use, especially with casual partners is consistent with the relatively high HIV prevalence measured in Yangon. However, HIV prevalence in Mandalay is also very high, despite the highest proportion of respondents consistently using condoms.

Figure 50: Consistent condom use with casual male sex partner(s) in the past 1 month reported by MSM respondents



Denominator: Those having sex with a casual partner in the past 1 month

C. Condom & lubricant access/availability

Across all sites, almost all (>95%) of respondents could name a place they know to get condoms. When asked to list these places, the median number of places described was 2 in all sites, except Pyay, where a median of 3 different places to get condoms was listed.

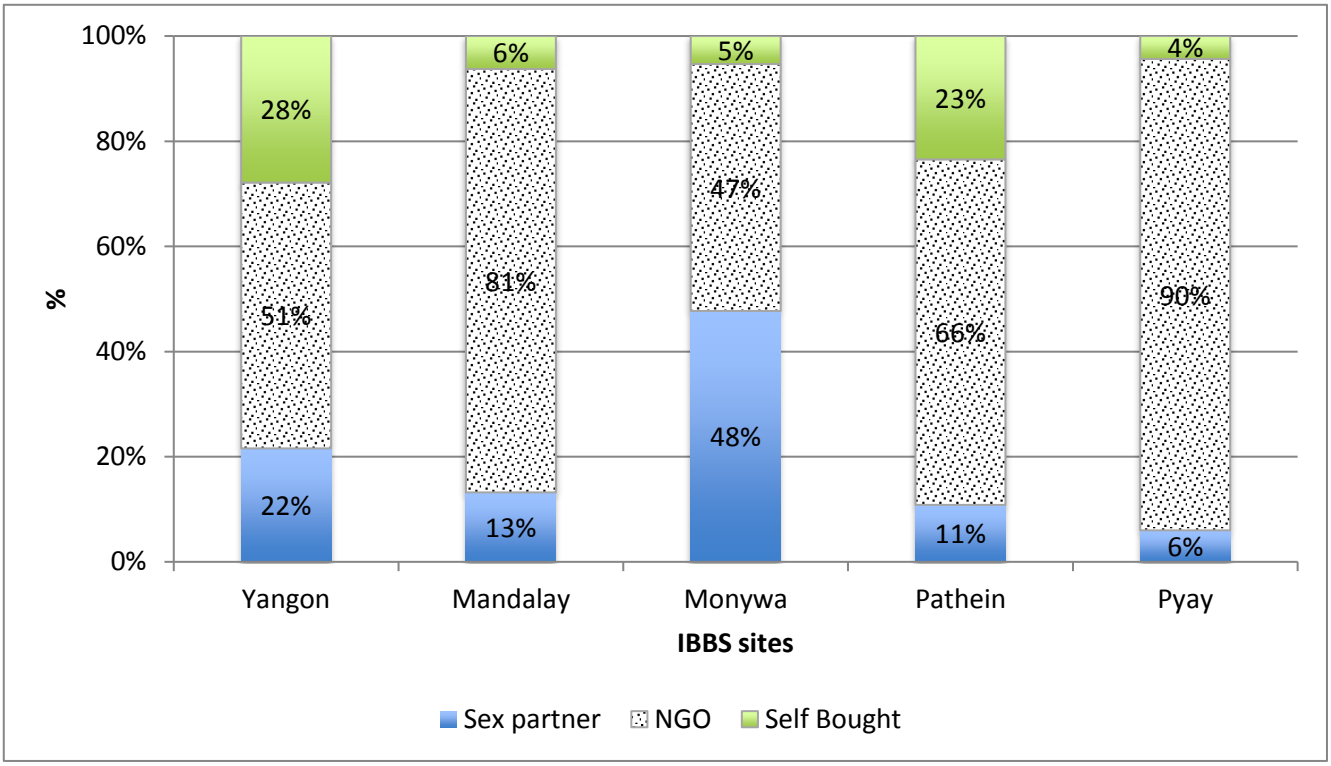
Access and availability of condoms can make a big difference in whether condoms are used. When asked about the most common source for condoms used by respondents in the last 12 months, we found wide variability by site. In most sites, the largest proportion of condoms came from NGO programmes. In Mandalay and Pyay, NGO as a source of condoms was most dominant. It is notable that in Monywa nearly half of all condoms were obtained from sex partners. At least 20% of condoms used in Yangon and Pathein appear to have been purchased as opposed to obtained through free distribution. For programme sustainability purposes understanding the factors that enable MSM to purchase their own condoms should be pursued further.

When asked specifically about condom availability, more than half of respondents in the three smaller sites (Monywa, Pathein, and Pyay) reported only sometimes being able to get condoms when needed.

The most common places named as a place to get lubricants were pharmacies (15-45%) and Drop in Centers (28-84%). Obtaining lubricants from an outreach worker was also a common place named, by respondents in most sites (19-95% of respondents).

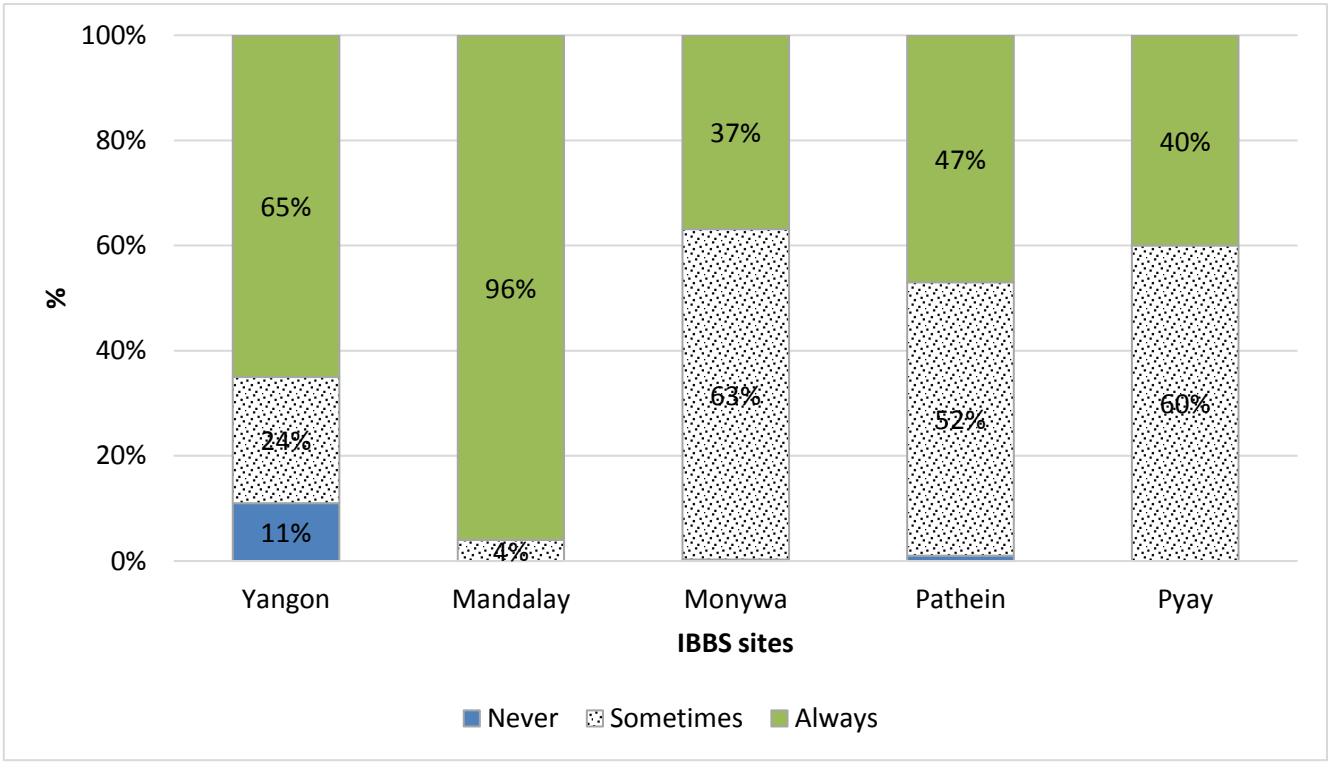
Although a majority of respondents had ever heard of female condoms, less than 10% in any site had ever used one.

Figure 51: Source of most condoms in the last 12 months reported by MSM respondents



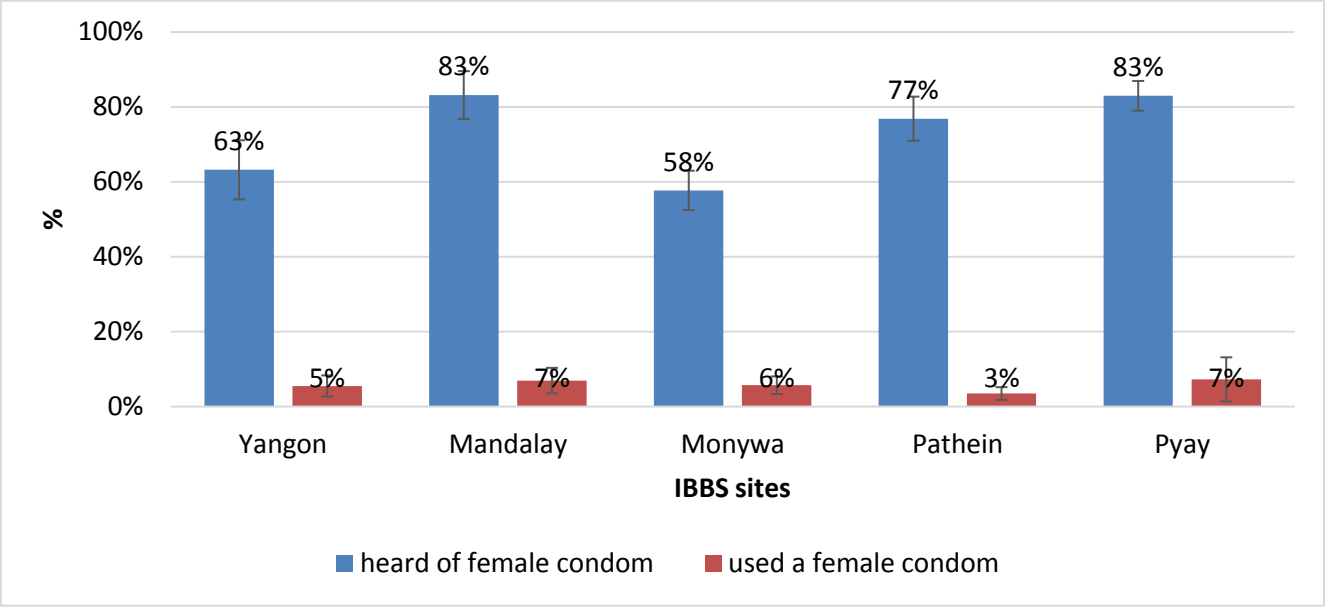
Denominator: All respondents

Figure 52: Availability of condoms when wanted/needed reported by MSM respondents



Denominator: All respondents

Figure 53: Ever experience with female condoms reported by MSM respondents



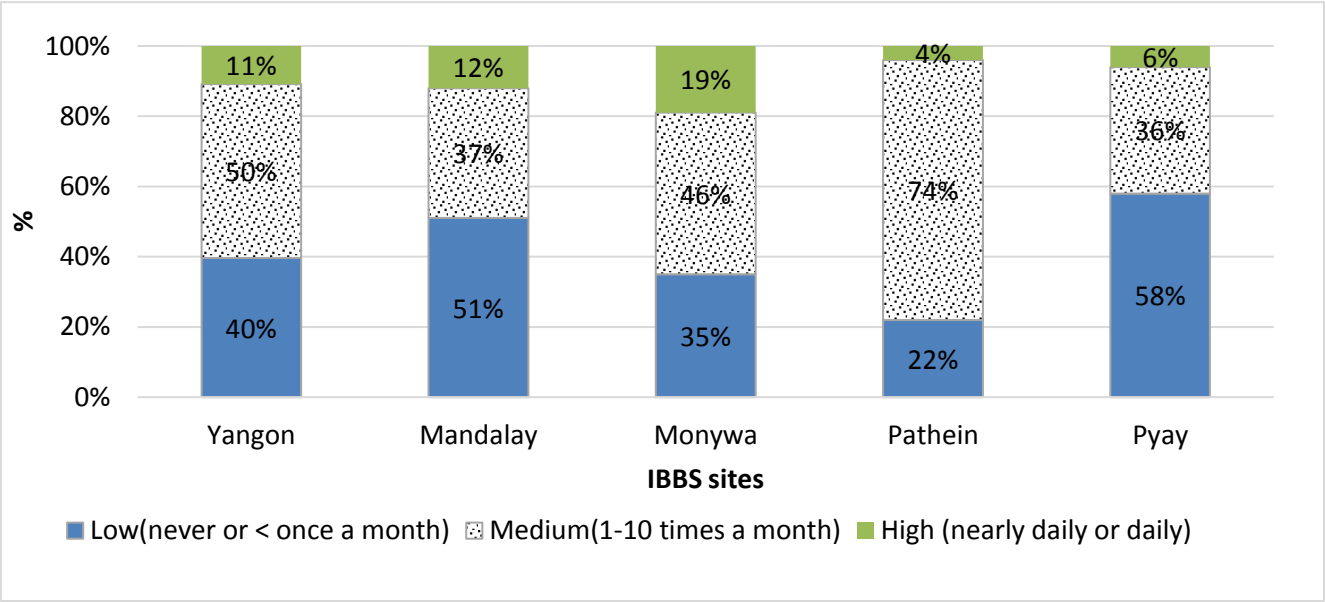
Denominator: All respondents

The proportion of MSM respondents who usually carried condoms ranged from 39% in Yangon to 75% in Mandalay. Those carrying condoms in Monywa, Pathein and Pyay were between 57-66%. These levels seem low in sites where 80% or more of respondents said their main source of condoms were buying condoms or obtaining them from NGOs. It is not clear whether some respondents carry condoms more frequently at the time they are meeting up with potential sex partners. However, the most common reason given by those who don't usually carry condoms in Pathein and Pyay, is that they don't use condoms.

11. Alcohol and drug related risk behavior

Nearly all (94%) of respondents in Pathein had alcohol in the last 12 months compared to about 70% of respondents in Yangon, Mandalay, and Pyay. The lowest frequency of alcohol use in the last 12 months was reported in Mandalay, where 51% of respondents reported never drinking alcohol or doing so less than once a month. Daily use of alcohol was uncommon in all townships, although nearly 20% of respondents in Monywa and 11-12% of respondents in Yangon and Mandalay reported daily use.

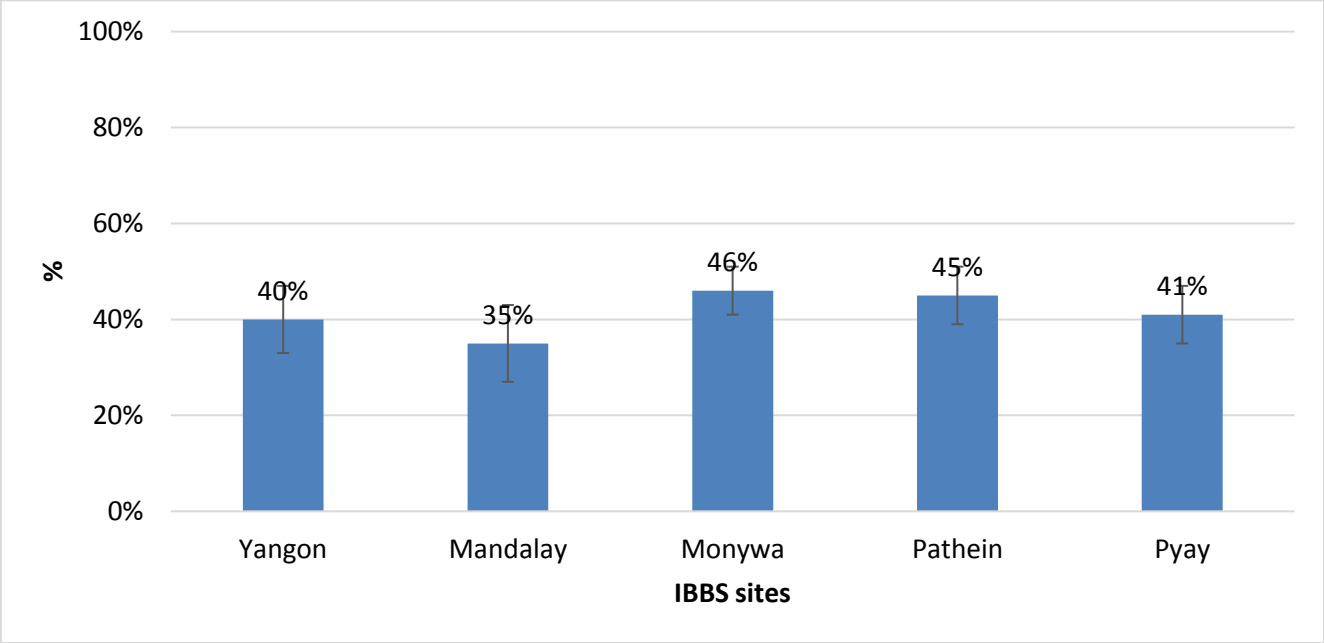
Figure 54: Frequency of alcohol use in the last 12 months reported by MSM respondents



Denominator: All respondents

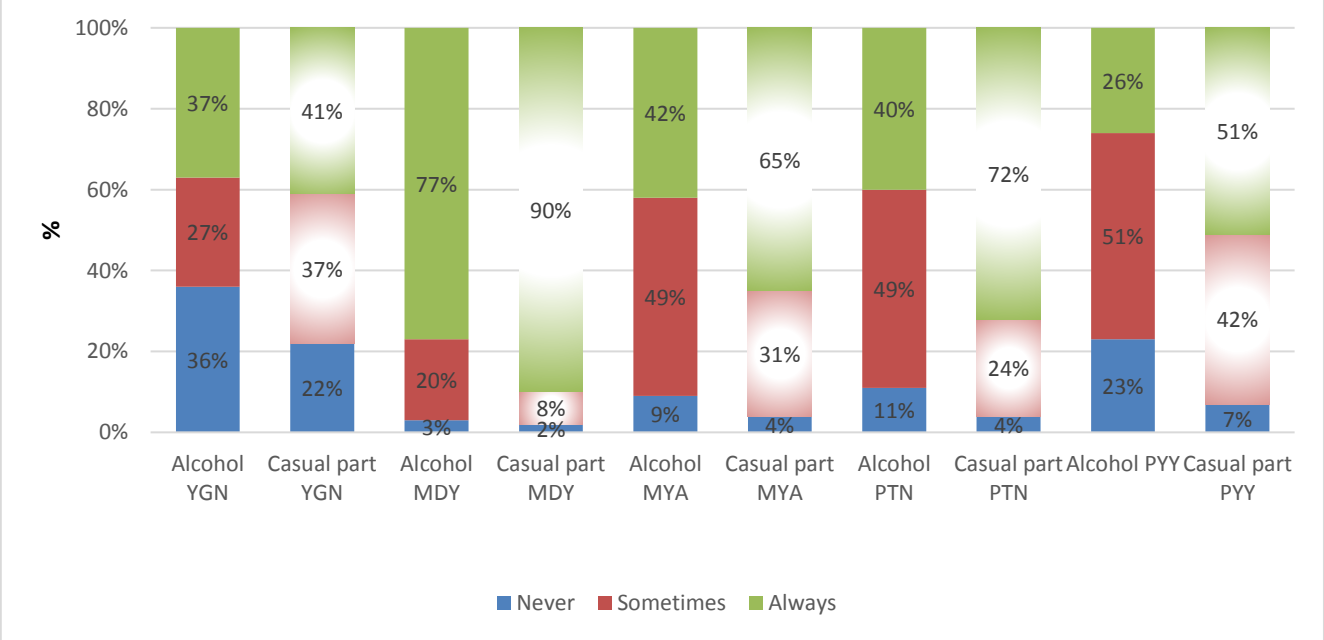
To determine how much alcohol use was tied to sexual risk behavior, respondents were asked whether they had gotten drunk and had sex in the last 12 months. Similar levels of alcohol use with sex were reported (35-46%) in all sites. When asked about condom use, we found lower levels of 'always' using condoms when having sex under the influence of alcohol in the last 12 months, compared to condom use with casual partners in the last one month. This suggests that alcohol plays an important role for increased risk behavior in some areas.

Figure 55: Proportion of MSM respondents who had sex under the influence of alcohol in the last 12 months



Denominator: All respondents

Figure 56: Influence of alcohol on lower consistent condom use reported by MSM respondents



Note: Darker columns represent consistent condom use when having sex under the influence of alcohol in the last 12 months (among those who had sex while under the influence of alcohol): Lighter columns represent consistent condom use with casual male anal sex partners in the last month (among those who had sex with a casual partner in the past one month).

A history of ever using drugs for non-medical purpose was reported by less than 10% of respondents in all sites, with the exception of Pathein. Although nearly one quarter (23%) of respondents in Pathein had ever used drugs, the vast majority (99%) used drugs with non-injecting methods, e.g. inhalation, smoking, etc. The highest level of injection drug use occurred among MSM respondents in Mandalay. About 4% of respondents in Mandalay said they ever injected drugs for a non-medical purpose and 3% of all respondents had done so in the last 12 months.

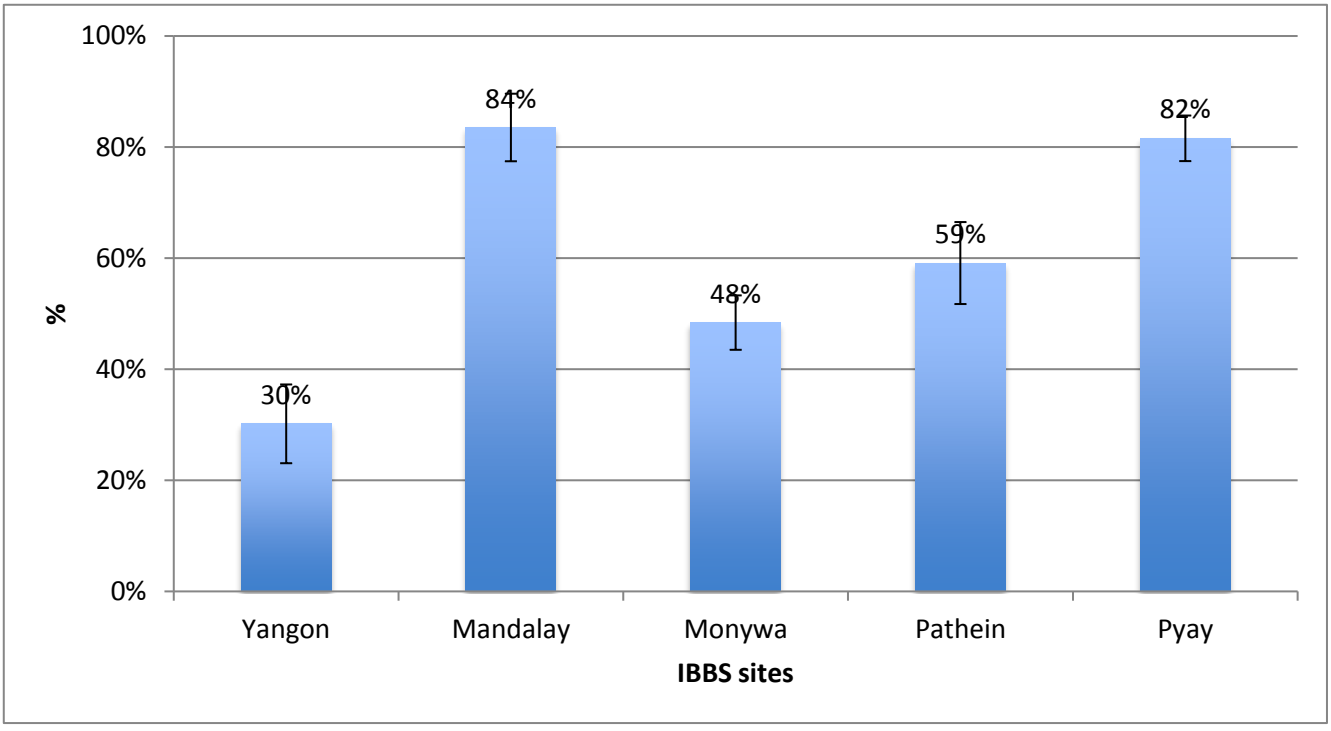
12. Service utilization and Knowledge

A. Knowledge on Prevention and Service *Availability*

Imparting comprehensive knowledge about HIV transmission and methods of prevention is necessary but insufficient for any effective prevention interventions. Five knowledge questions comprise the standard measure used for comprehensive knowledge used for global AIDS response and progress reporting (GARPR).

Against this measure, MSM respondents in Yangon performed poorly, with only 30% responding correctly for all five questions. Knowledge of respondents in Mandalay and Pyay were high at over 80%, while respondents in Monywa and Pathein[22] performed moderately well.

Figure 57: Proportion of MSM respondents with comprehensive knowledge on prevention of HIV/AIDS among MSM respondents – GARPR indicator



Denominator: All respondents

[22] Estimates for comprehensive knowledge did not reach convergence in Pathein.

Table 4: Proportion of MSM respondents giving correct responses to questions on HIV prevention and transmission

	Yangon	Mandalay	Monywa	Pathein	Pyay
Can reduce the risk with one uninfected partner	**69%**	98%	83%	96%	95%
95% CI	*(61-76)*	*(95-100)*	*(80-87)*	*(94-98)*	*(92-97)*
Mosquitoes can't transmit HIV	**69%**	90%	**65%**	**79%**	95%
95% CI	*(61-77)*	*(85-95)*	*(60-70)*	*(71-86)*	*(93-98)*
Can reduce the risk by using condoms every time	95%	99%	98%	95%	98%
95% CI	*(91-100)*	*(98-101)*	*(97-99)*	*(90-100)*	*(96-99)*
Sharing food can't transmit HIV	91%	96%	88%	92%	98%
95% CI	*(88-95)*	*(93-99)*	*(84-91)*	*(89-95)*	*(97-99)*
A health looking person can have HIV	90%	99%	90%	93%	92%
95% CI	*(84-96)*	*(98-100)*	*(87-93)*	*(88-98)*	*(88-95)*
Denominator (all respondents)	396	390	365	404	413

Table 4 lists the five areas of knowledge included in the composite knowledge measure and the proportion of respondents in each site who gave a correct answer to each question. For each question, most respondents appeared to have correct knowledge.

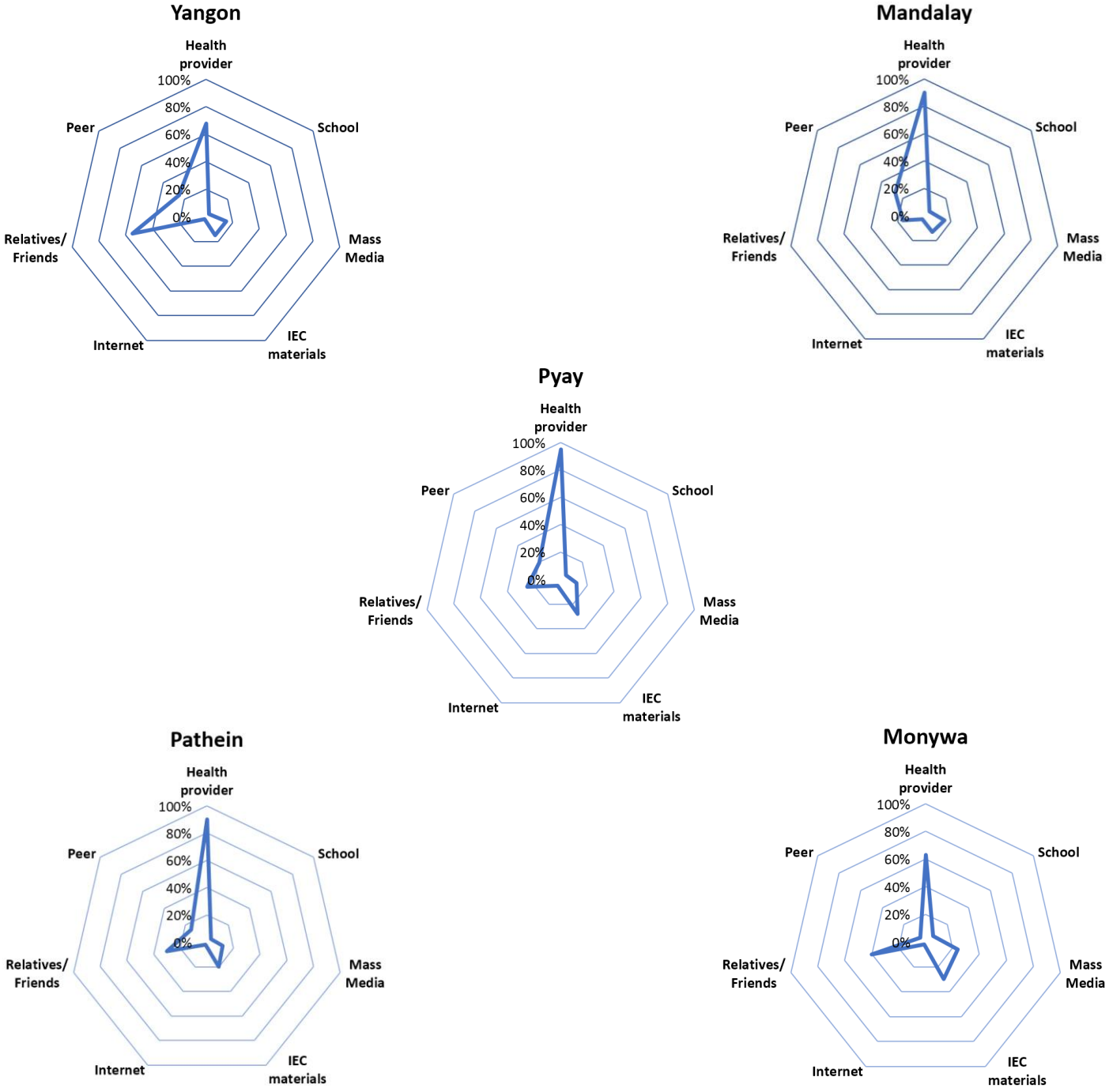
However, the question with the most incorrect responses related to whether mosquitoes can transmit HIV. In Yangon, the site with the lowest level of comprehensive knowledge, only 69% of respondents knew know that having one uninfected sex partner could reduce their risk of acquiring HIV.

When asked to list the source(s) of most information about HIV, respondents could give multiple answers. In all sites, health providers were by far the most common source of information, followed by relatives and friends. In Monywa, mass media (i.e. radio, tv, and magazines) were an important source of information for 25% of respondents.

Peers (i.e. other MSM) were an important source of information for more than 25% of respondents in the large cities, Yangon and Mandalay. We also observed that for more than 25% of respondents in Monywa and Pyay, cited the IEC materials provided by government and NGO prevention programmes as important sources of information.

Knowledge that treatment for HIV/AIDS is available can both motivate people at risk for HIV to get tested and access treatment, if appropriate, as well as lower the stigma against PLHIV in the general population. Levels of awareness of treatment for HIV ranged from 67% in Pyay to 88% in Mandalay. There was no correlation between the proportion of people who had comprehensive prevention knowledge and those who were aware of treatment, suggesting different methods of information transfer for these two topics.

Figure 58: Main source of information for HIV and AIDS reported by MSM respondents (multiple responses allowed)

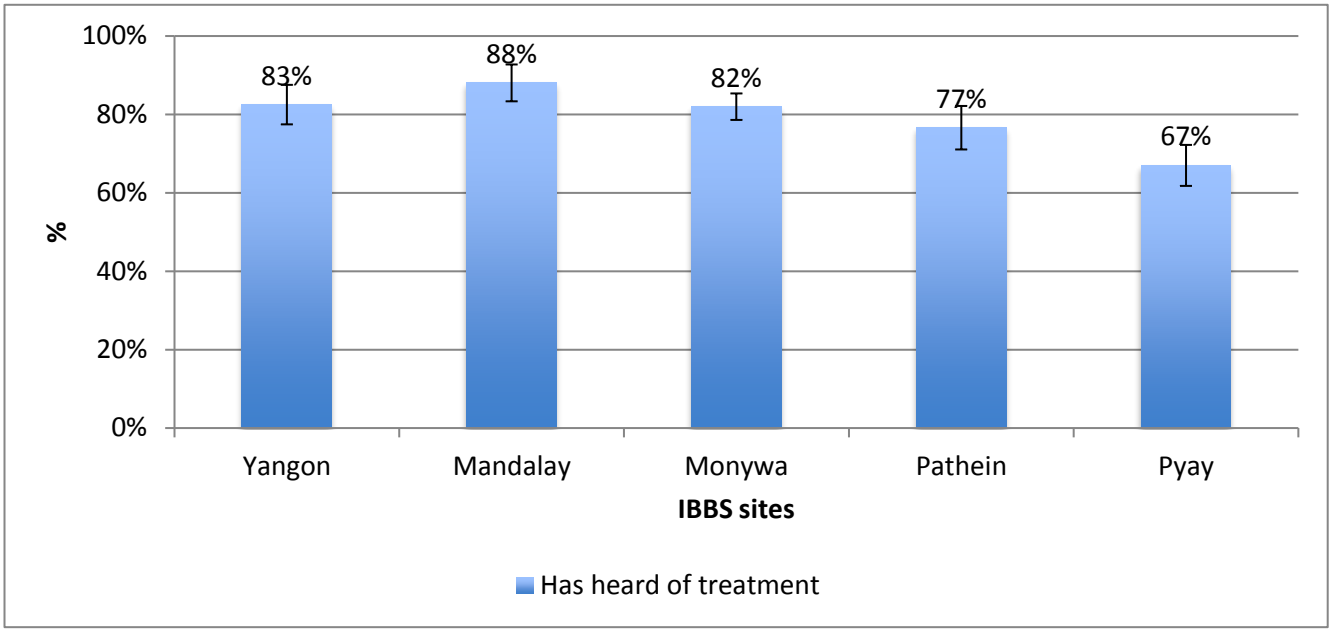


Denominator: Those who ever received information about HIV and AIDS

Critical areas of knowledge also encompass awareness of service availability, specifically where to go for HIV testing. The lowest level of knowing where to go for HIV testing was reported by respondents in Monywa. Only 74% said they knew where to go for HIV testing, compared to more than98% of respondents in Mandalay, Pathein, and Pyay. Given the relative wealth of services available in Yangon, it was surprising that only 89% of MSM knew where to go for testing.

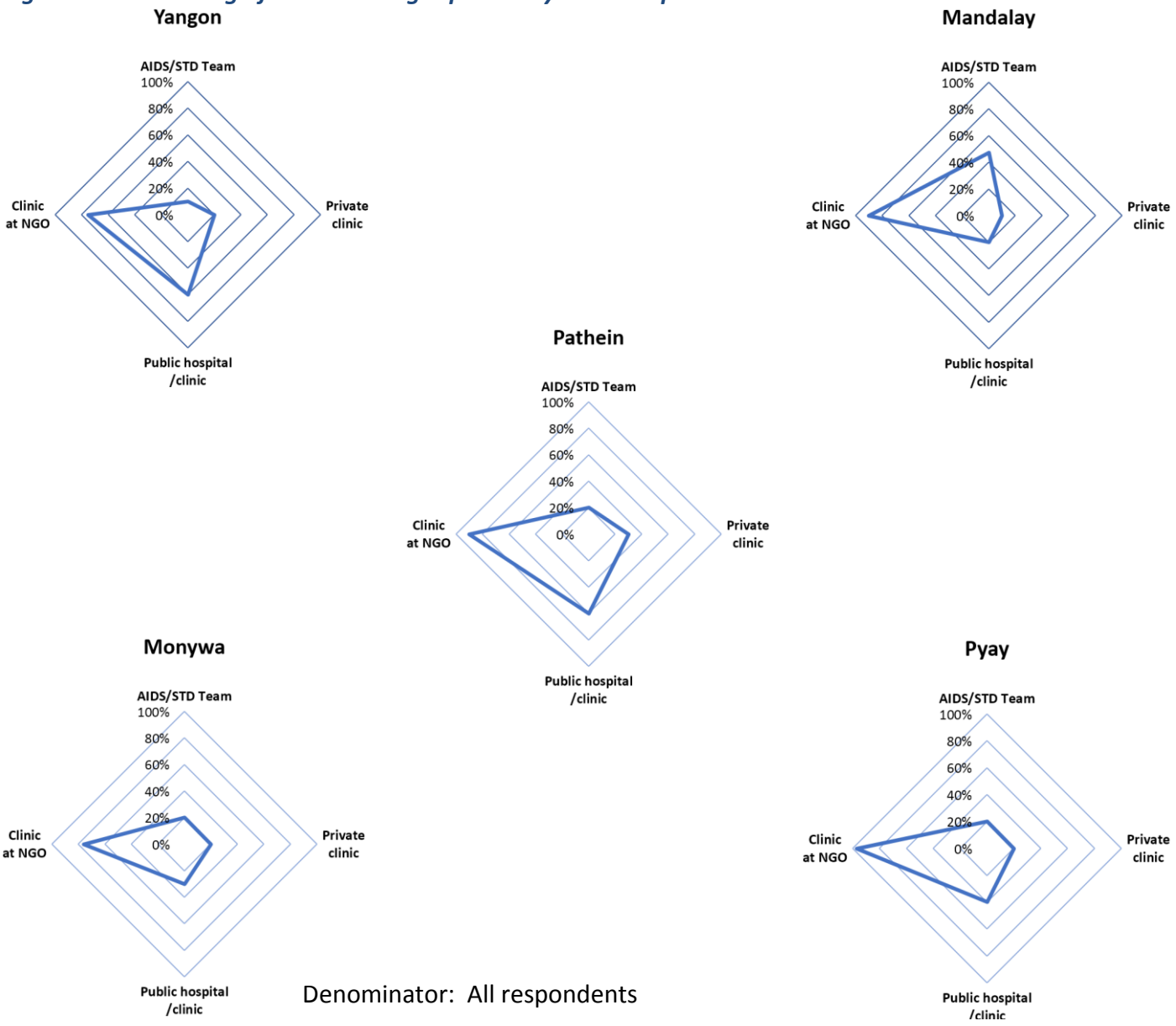
The most common places mentioned for where to go for HIV testing were clinics at NGOs. Between 73-96% of respondents mentioned these types of testing sites. The second most common testing place reported were public hospitals and clinics or the government AIDS/STD team.

Figure 59: Proportion of MSM respondents who were aware of treatment for HIV/AIDS



Denominator: All respondents

Figure 60: Places to go for HIV testing reported by MSM respondents



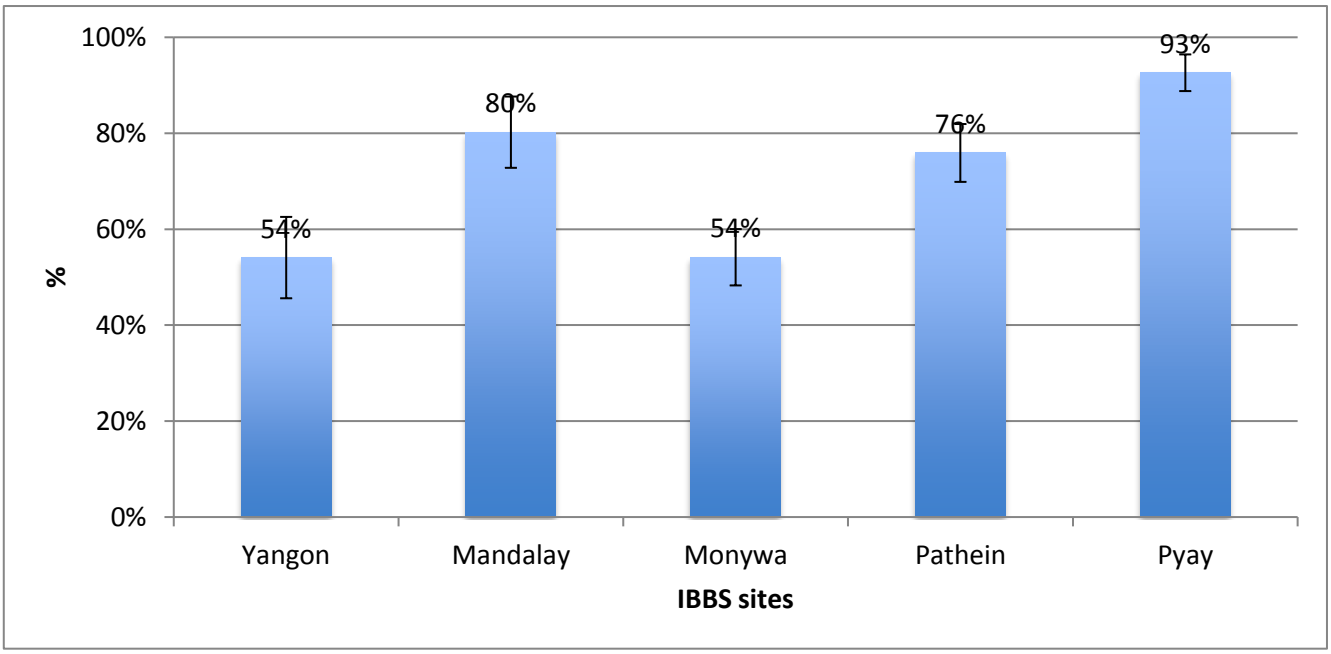
Denominator: All respondents

B. Contact with prevention program

The IBBS found moderate to high levels of programme coverage among MSM respondents, when defined using the GARPR standard indicator: received condoms from an outreach worker in the last 12 months and know a place for HIV testing. In Yangon and Monywa[23] coverage by this measure was 54%, significantly lower, than in Mandalay (80%), Pathein (76%) and Pyay (93%). Lower levels of coverage in large metropolitan areas such as Yangon, may be expected due to the overall size of the MSM population. Other factors, including newer programme services in Monywa may play an important role in explaining lower levels of coverage in these smaller sites.

Interpreting programme coverage levels requires some caution as the method of respondent driven sampling may result in biases toward inclusion of people who were more likely to be engaged with services. Although no issues with convergence or bottlenecks in recruitment were detected for the programme coverage variable, it is still possible that in some sites the survey represents a sub-set of MSM who were more engaged with programming than the overall MSM population.

Figure 61: Proportion of MSM respondents who received condoms in the last 12 months and knows a place for an HIV test – GARPR indicator



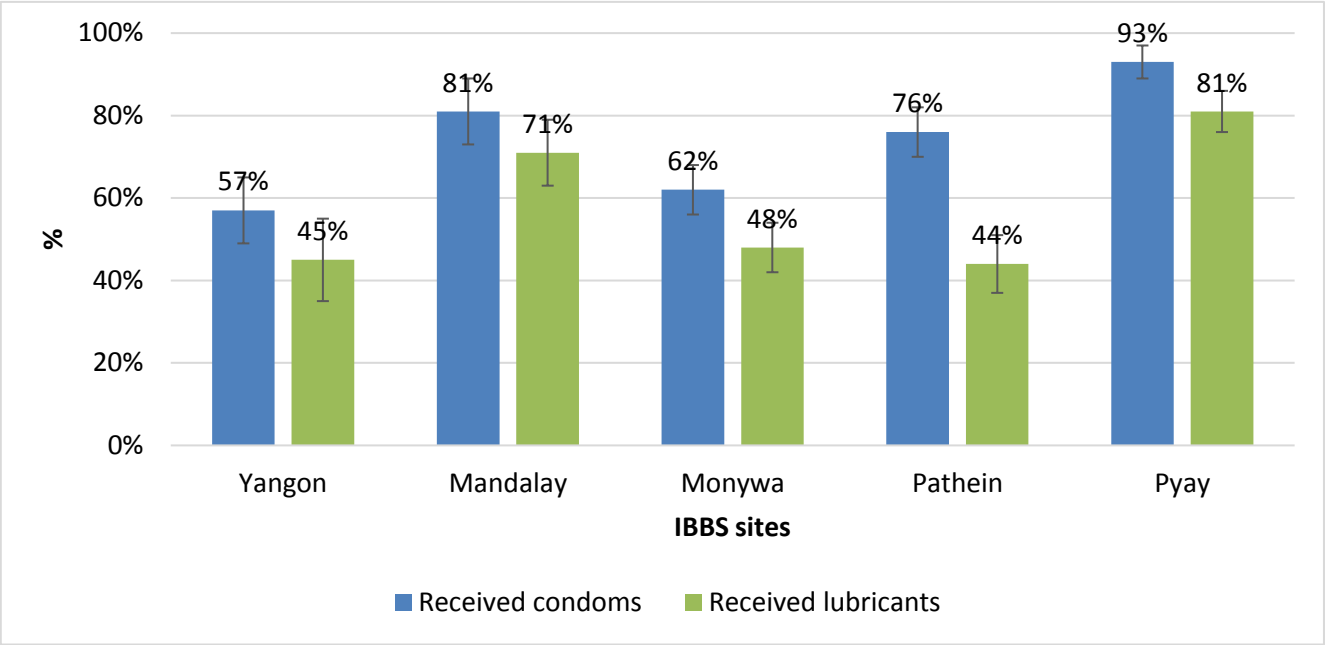
Denominator: All respondents

Outreach services include distribution of both condoms and lubricants, however, the proportion of respondents who received lubricants from outreach workers in the last 12 months was slightly less than those who received condoms. This difference was statistically significant in Pathein and Pyay.

The NGO Population Services International (PSI) is a longstanding provider of HIV prevention services for MSM in several cities throughout Myanmar. The programme runs drop-in centers (DIC) for one-stop prevention and clinical services designed for MSM, branded as TOP Centers. We examined patterns in recent utilization of TOP Center services, specifically visiting the center and testing for HIV at the center in the first three months of 2015. We expected a smaller proportion of respondents to visit a TOP Center than to have received condoms from an outreach worker who go out to venues where MSM gather. We observed consistent patterns in the proportion of respondents visiting a TOP Center and those who met the programme coverage definition for GARPR by site. For example, the highest proportion of respondents visiting a TOP Center was 59% in Pyay, which also showed 93% GARPR programme coverage.

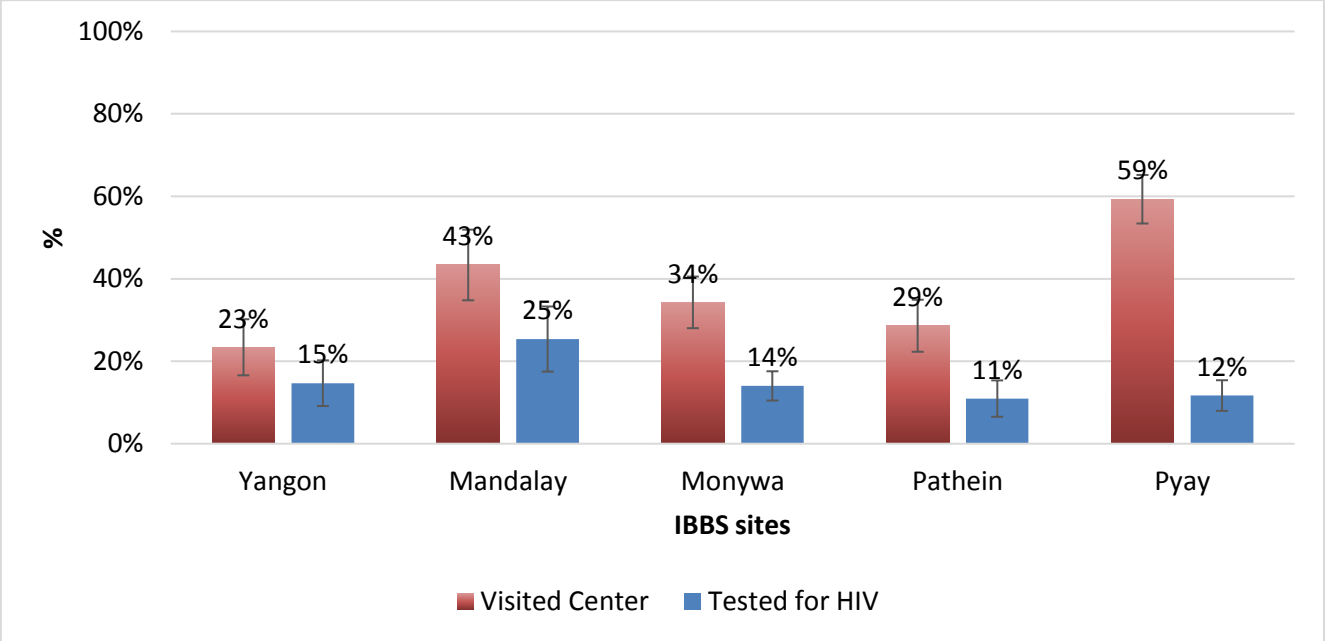
[23] Estimates for prevention coverage did not reach convergence in Monywa.

Figure 62: Proportion of MSM respondents receiving prevention commodities from outreach staff in the last 12 months



Denominator: All respondents

Figure 63: Proportion of MSM respondents who accessed services at TOP Center in the first quarter of 2015



Denominator: All respondents

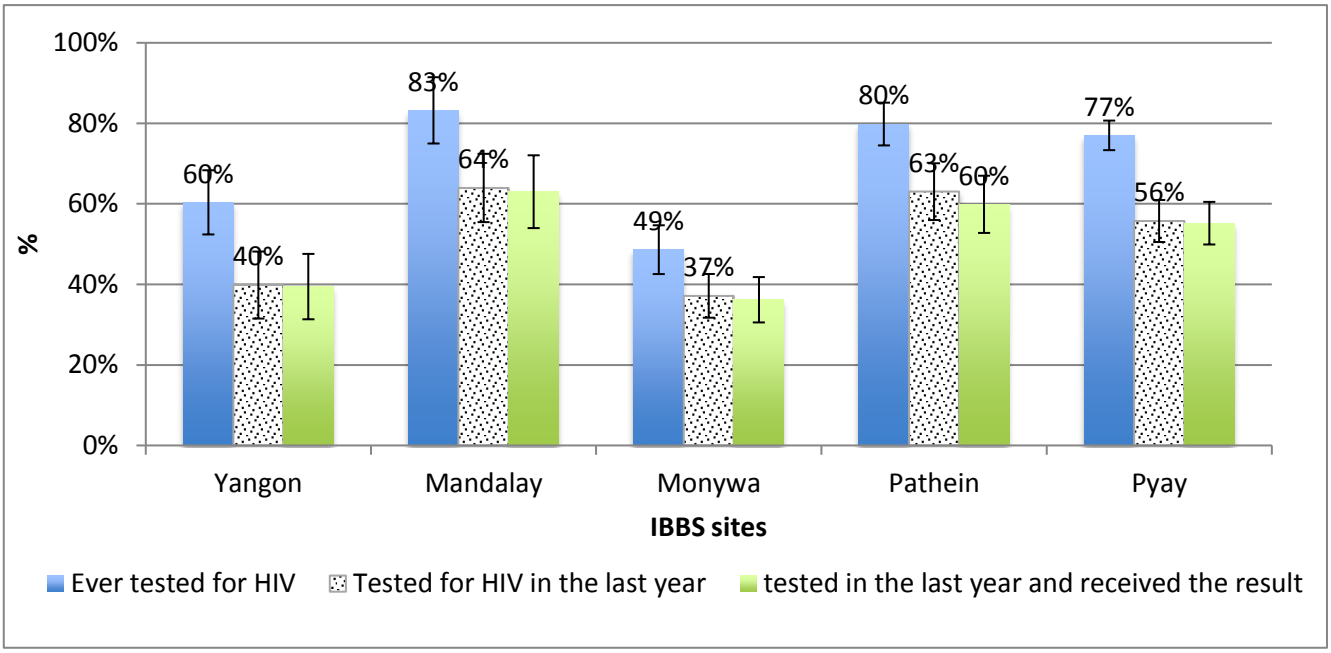
In Pathein, the proportion of respondents who had visited a TOP Center was lower than might be expected given its relatively high level of programme coverage. This may reflect the relative importance of the outreach model of service delivery in Pathein to achieve high levels of coverage. And as noted by stakeholders during consultation about potential selection bias, MSM in Mandalay, Monywa, and Pathein were more likely to participate in the survey if they had been engaged in TOP Center services, thus these measures of programme coverage may overestimate actual levels of service utilization.

We also observed that patterns of testing for HIV across sites did not follow the same pattern as outreach based programme coverage or visits to TOP Center. Although Pyay had significantly higher levels of programme coverage and TOP Center visits, rates of HIV testing at TOP Center were similar to most other sites. Testing at TOP Center was highest in Mandalay (25%) but not significantly higher than the other sites.

C. Testing Utilization

Testing coverage forms the foundation of effective HIV treatment services. The proportion of MSM who had ever been tested for HIV ranged from 49% in Monywa to more than 75% in Pyay, Pathein and Mandalay. Regular (i.e. at least annual) testing among key populations who were negative at last test is encouraged and is featured as the 'first 90' in the global HIV programme services cascade (citation). The proportion of respondents who had been tested in the last year and received that test result ranged from 36%-39% in Monywa[24] and Yangon to over 60% in Pathein, Mandalay. This pattern is different than that seen for recent testing at a TOP Center. This difference may indicate the importance of testing facilities other than TOP Centers in Pathein and Pyay where recent testing in TOP center was low (11% and 12%) when the overall tested in last year rate was relatively high. We also note that almost all individuals who got tested in the last year also got their test result, illustrated in Figure 64.

Figure 64: Proportion of MSM respondents who have accessed HIV testing



Denominator: All respondents

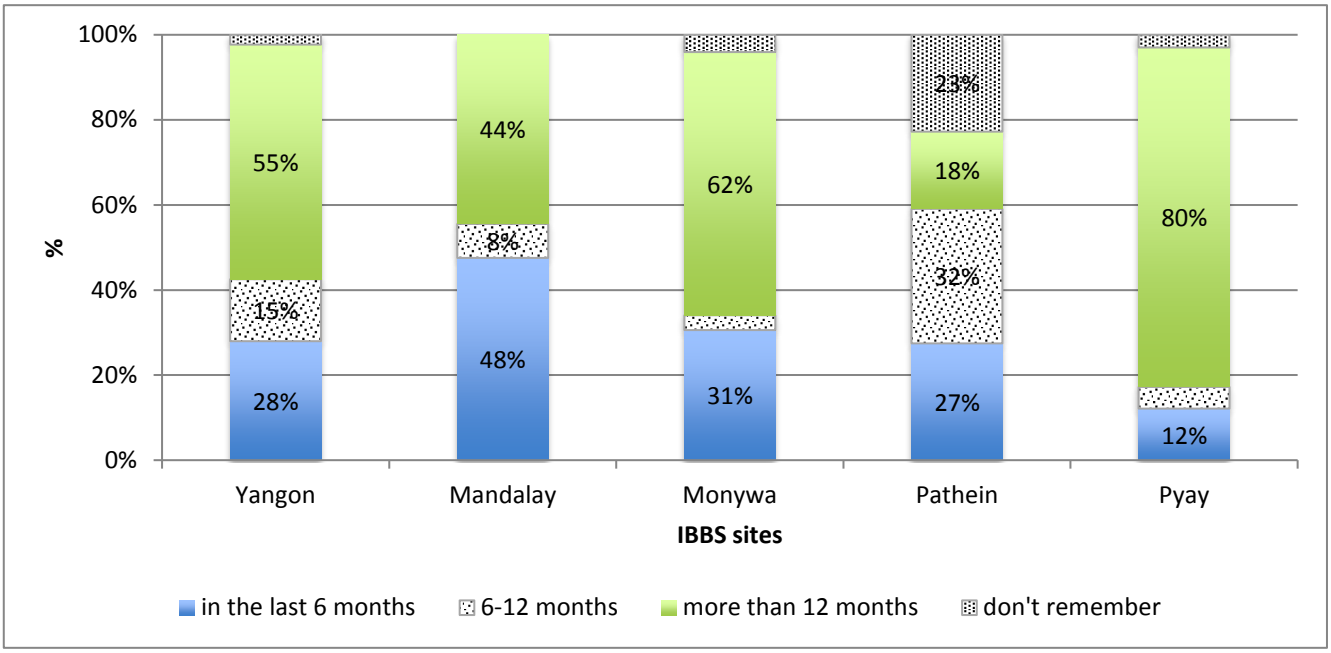
An important consideration in interpreting survey-based testing coverage is that it should be measured among those who are HIV negative, i.e. those who have had a positive test result in the previous year should not be included in the testing coverage denominator. When the rate of case finding is low and/or HIV prevalence in the population is low, this correction does not make a big difference in testing coverage measures. However, in Yangon and Mandalay, HIV prevalence is high (>20%) and testing services have been in place for several years. This means that the proportion who have been tested in the last year and received their result measured in the IBBS may underestimate the testing coverage among those who are not yet infected with HIV.

The HIV prevalence observed in Yangon and Mandalay is substantially higher than recent HIV test positivity found by programmes offering HIV testing to MSM populations. We hypothesized that the IBBS sample

[24] Estimates for tested in the last year and received the result did not reach convergence in Monywa.

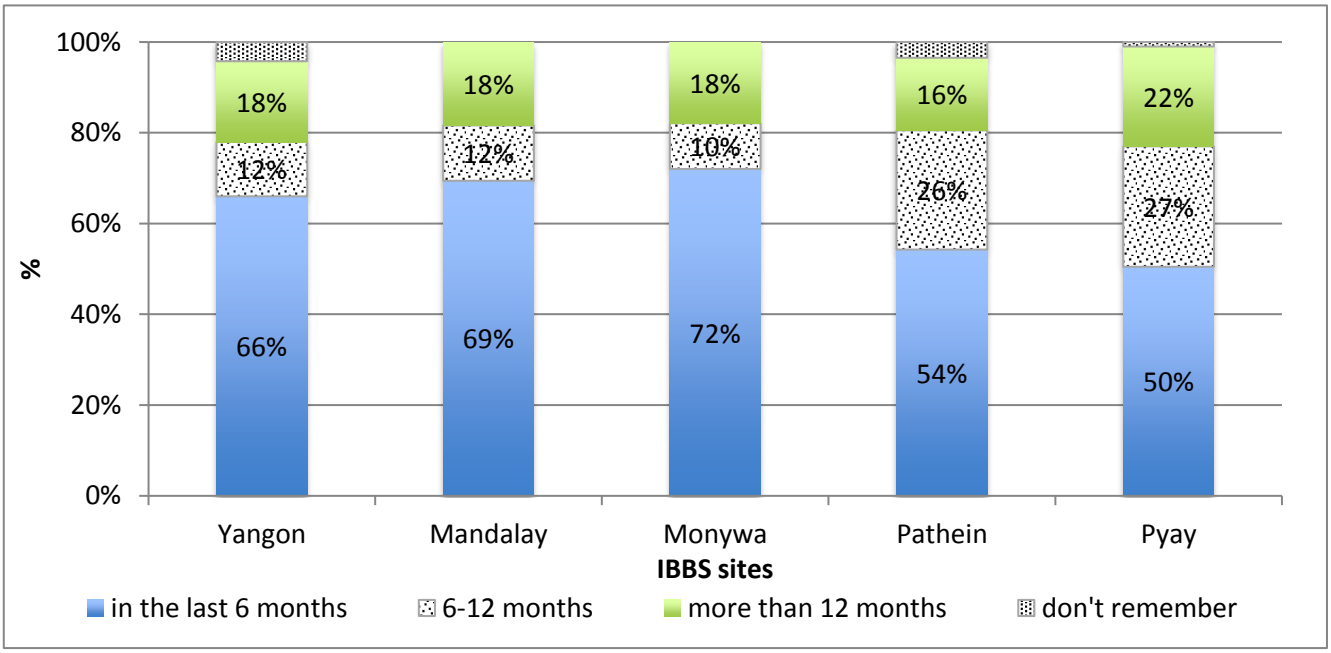
included a large number of individuals with older infections (i.e. HIV infections which were acquired more than a year ago). To test this hypothesis, we examined the timing of the last test among respondents who tested positive for HIV in the IBBS and had previously been tested compared to those who had tested negative for HIV in the IBBS and had preveiously been tested. Figures 65 and 66 show the result by site.

Figure 65: Timing of last test reported by MSM respondents who tested positive for HIV in the IBBS



Denominator: Those who tested HIV positive in IBBS and ever had been tested

Figure 66: Timing of last test reported by MSM respondents who tested negative for HIV in the IBBS



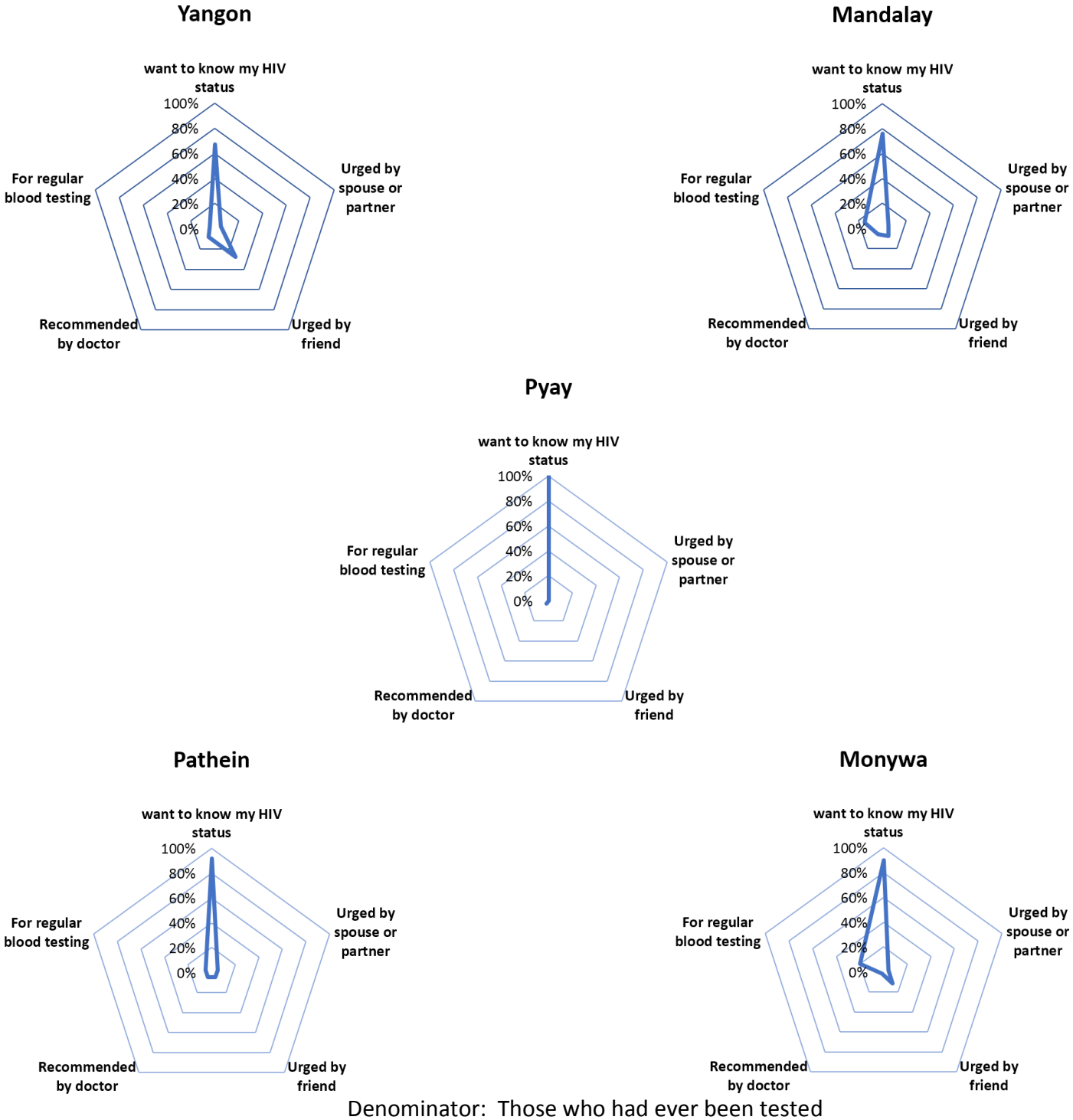
Denominator: Those who tested HIV negative in IBBS and ever had been tested

In Yangon, 55% of those who tested positive in the IBBS and had been previously tested had been tested more than a year ago. In contrast, those in Yangon whose IBBS HIV test result was negative, about 66% had had a test in the last 6 months. While not for certain, this difference in timing provides some evidence that a large portion of HIV positive respondents acquired their infections more than a year ago and had a positive

test result at their last test. Knowing they were HIV positive would explain why they had not been tested as recently as those who were HIV negative at the time of participating in the IBBS. The other four sites exhibited similar patterns in timing of test by whether respondents' last test had a positive or negative result.

When asked the reason for having their last HIV test, a majority of respondents said they wanted to know their status. In Yangon a significant proportion of people (26%) gave the urging of a friend as the reason for the last test. It is unclear whether this friend encouragement also included referral by peer educators. In Mandalay and Monywa about 15% described regular blood testing as the main reason. This implies that some portion of MSM understood recommendations by prevention service programmes to test for HIV regularly.

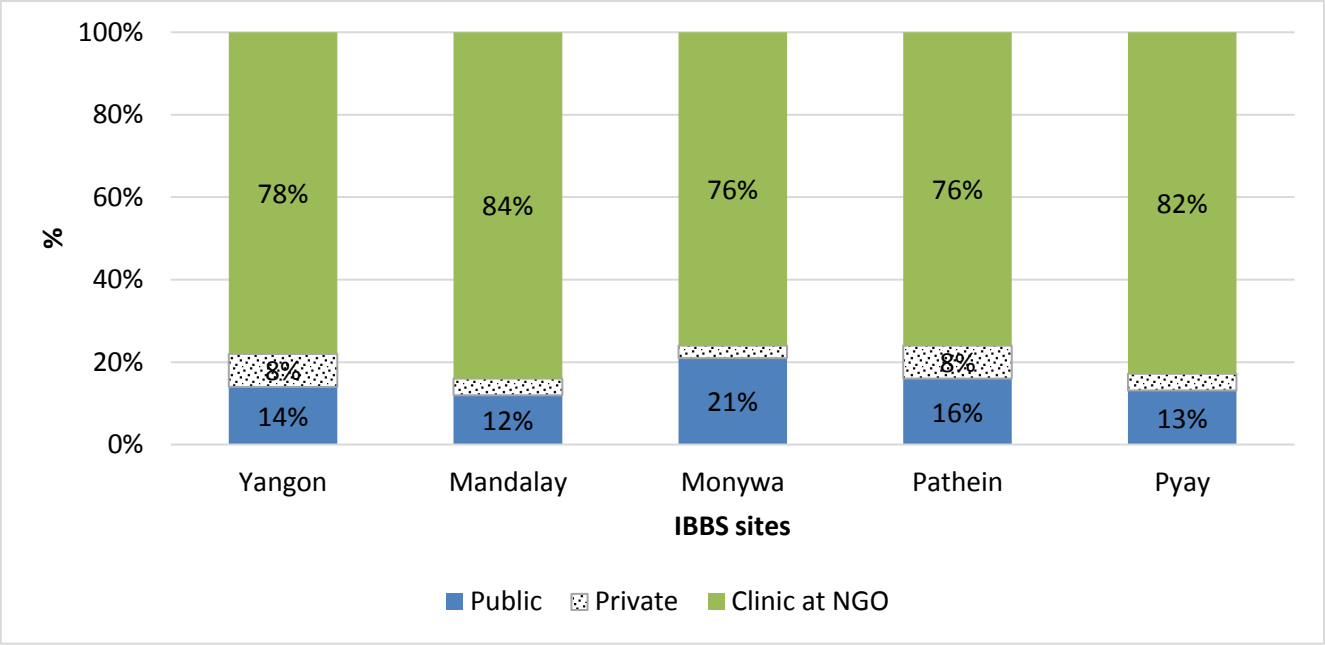
Figure 67: Reason for last HIV test reported by MSM respondents (multiple responses possible)



Denominator: Those who had ever been tested

More than three quarters of those ever tested for HIV had their last test at an NGO clinic. Between 12-21% of respondents' last test were at public sector testing sites. These results are consistent with the types of places respondents named as places they knew where they could go for HIV testing.

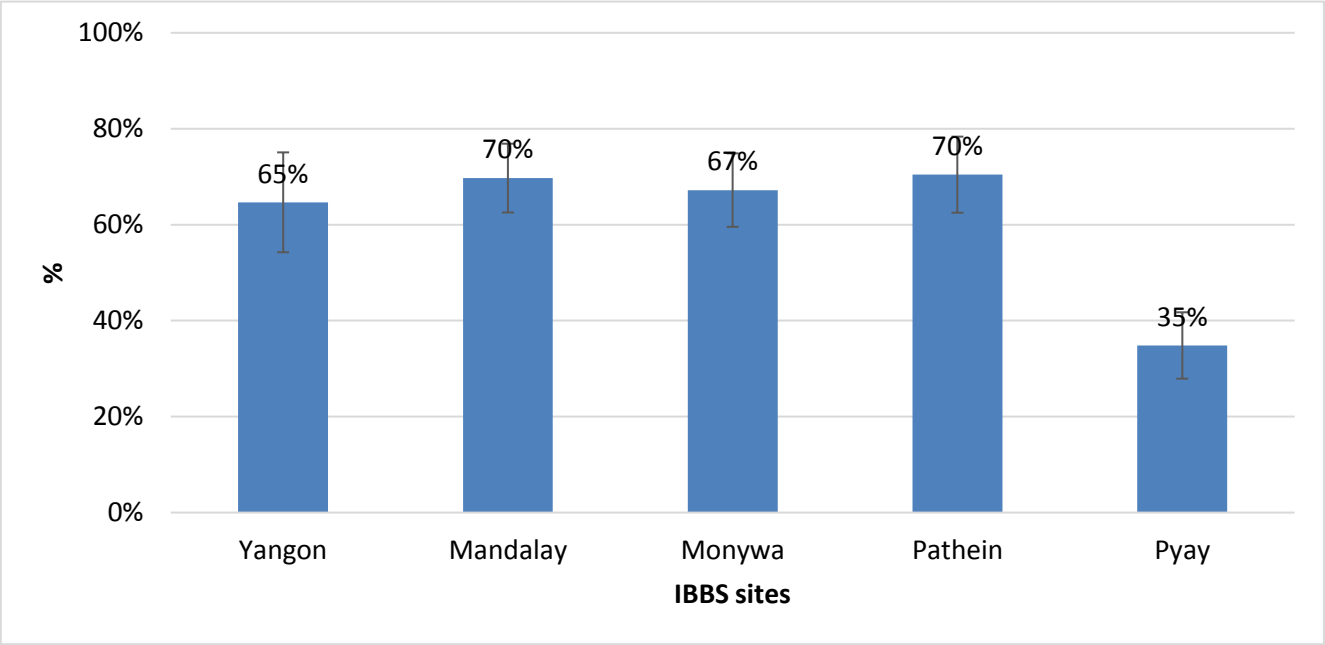
Figure 68: Type of clinic used for the last HIV test reported by MSM respondents



Denominator: Those who had ever been tested for HIV

In four of the five sites (Yangon, Mandalay, Monywa, and Pathein) 65-70% of respondents who had been tested and received the result, shared the result of their last test with someone. In Pyay, a significantly lower proportion, 35% said they had shared their result.

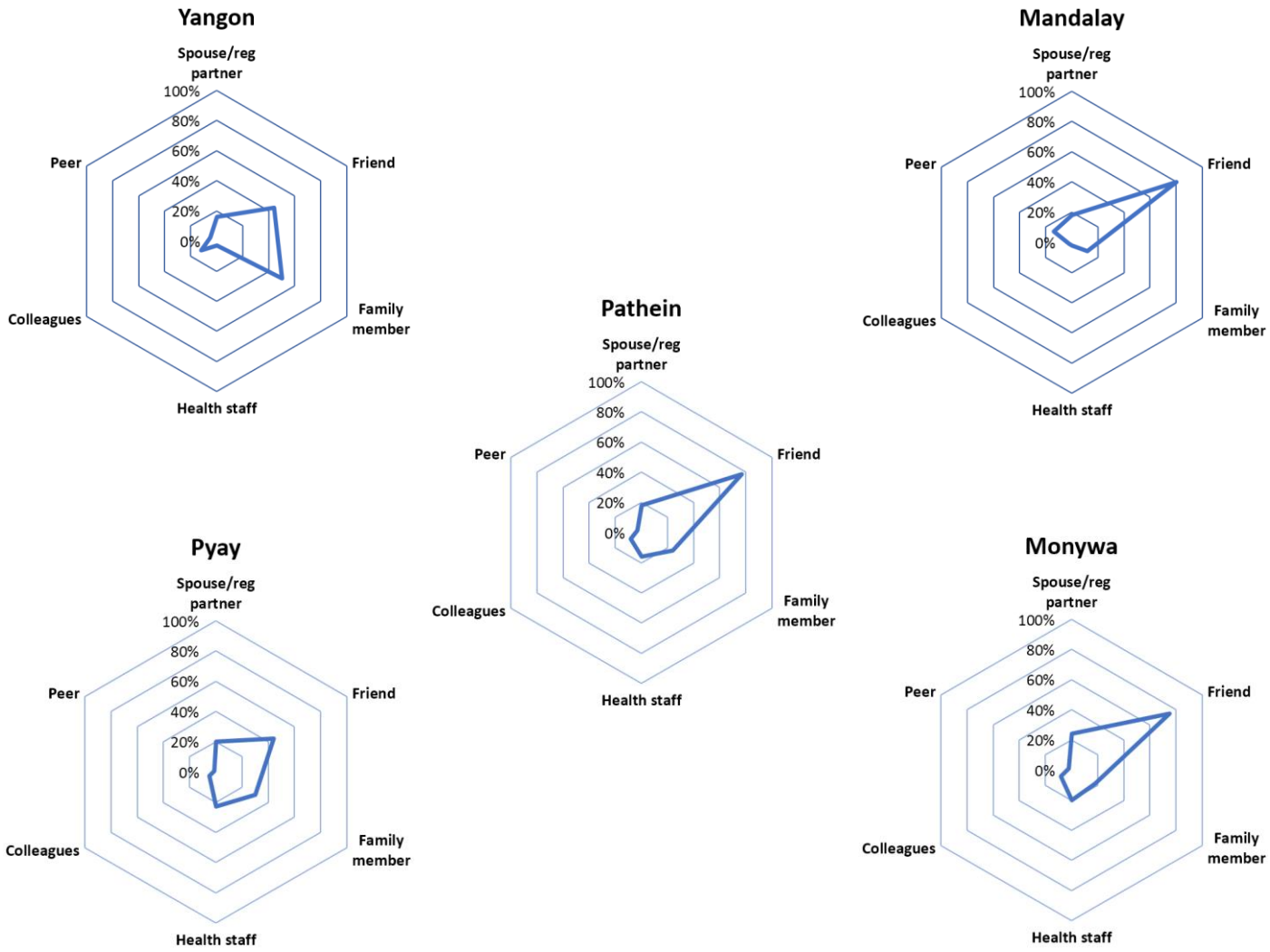
Figure 69: Proportion of MSM respondents who shared their last test result with someone



Denominator: Those who had ever been tested for HIV and received the result

The most common person respondents shared their last test result with was a friend. Only 15-20% of respondents shared their result with a spouse or regular partner. Due to the way the question was asked, it's not possible to distinguish whether the spouse/regular partner was male or female.

Figure 70: Person(s) with whom MSM respondents shared their last HIV test result



Denominator: Those who had ever been tested for HIV and who shared their result with someone

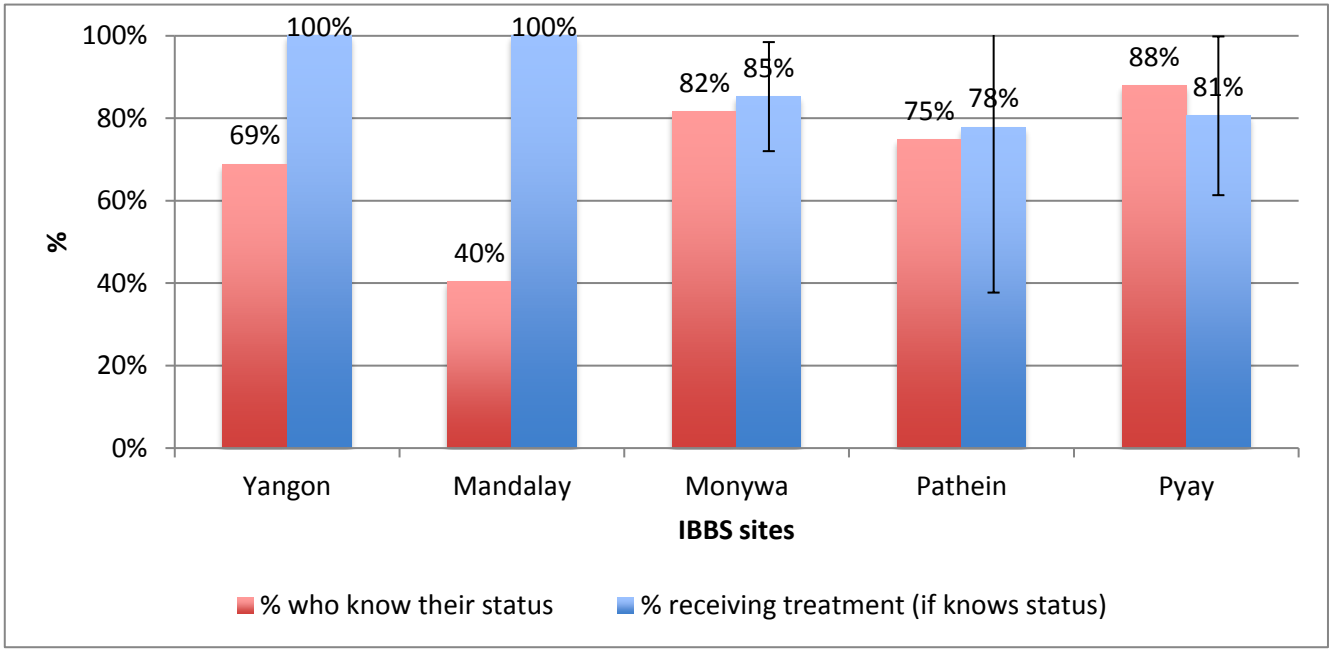
Respondents were also asked to share the result of their last test, if they received the result. We observed that in Yangon, Monywa, Pathein, and Pyay the proportion of people who shared their positive result was very similar to the HIV prevalence measured by the IBBS. However, in Mandalay, only 7% of those who had been tested and knew their result reported being HIV positive. This suggests that HIV positive MSM in Yangon, Monywa, Pathein, and Pyay get tested at similar rates compared to HIV negative MSM. But in Mandalay, it may be that HIV positive MSM are testing less frequently than HIV negative MSM. Another interpretation is that MSM in Mandalay feel HIV status is more stigmatizing than in other areas, and HIV positive respondents might have been more reluctant to share a positive test result.

One of the primary goals of an HIV testing programme is to ensure that people who are HIV positive know their status and can seek care and antiretroviral treatment as soon as possible. Through the IBBS, respondents were asked to report the result of their last HIV test. Among those respondents with a positive result from the IBBS HIV test, we assessed the proportion who also reported they were HIV positive. Figure 71 shows that the proportion of HIV positive respondents who knew their status ranged from 40% in Mandalay to nearly 88% in Pyay. It is possible that this measure underestimates the proportion of PLHIV MSM who know their status, as some respondents might feel uncomfortable disclosing to interviewers that they were HIV positive. In Mandalay, the particularly low proportion of PLHIV MSM who know their status is cause for concern, given the high HIV prevalence and population size translates to a large number of PLHIV

MSM who don't know their status. We also measured relatively low levels of stigma related to being MSM in Mandalay, which may indicate that under-reporting positive status does not contribute to a gross underestimation of this measure.

An encouraging sign of effective linkages between testing and treatment services is that among those who knew they were HIV positive, 100% received ART in Yangon and Mandalay. In the other three sites, we observed high levels of people knowing their status and good levels (>80%) of accessing treatment among those who knew they were HIV positive.

Figure 71: Proportion of PLHIV MSM respondents who knew their status and utilization of treatment among those diagnosed



Denominator: Those who tested positive by the IBBS

Besides knowing one's own status, encouraging sex partners to get tested and know their status is also an important component of preventing HIV transmission. When asked whether respondents knew the HIV status of their last regular partner (whether male or female) a wide variety of responses were given in different sites. In Yangon and Mandalay, a similar proportion of respondents didn't have a regular partner (28-29%) or didn't know whether their partner had been tested for HIV (23-26%). Roughly two thirds of MSM in Yangon who had a regular partner and knew their testing history said that their regular partner had never been tested. In Mandalay, the opposite was true, two thirds of MSM said that their regular partner had been tested. In Moywa and Pathein, 65-69% of respondents did not know their regular partners' testing history; and 22-24% of respondents reported that their regular partner had been tested. Respondents in Pyay appeared to have more information about whether their regular partner had been tested. Nearly half (47%) of respondents in Pyay knew their regular partner had never been tested, compared to 18% who knew their regular partner had ever been tested for HIV.

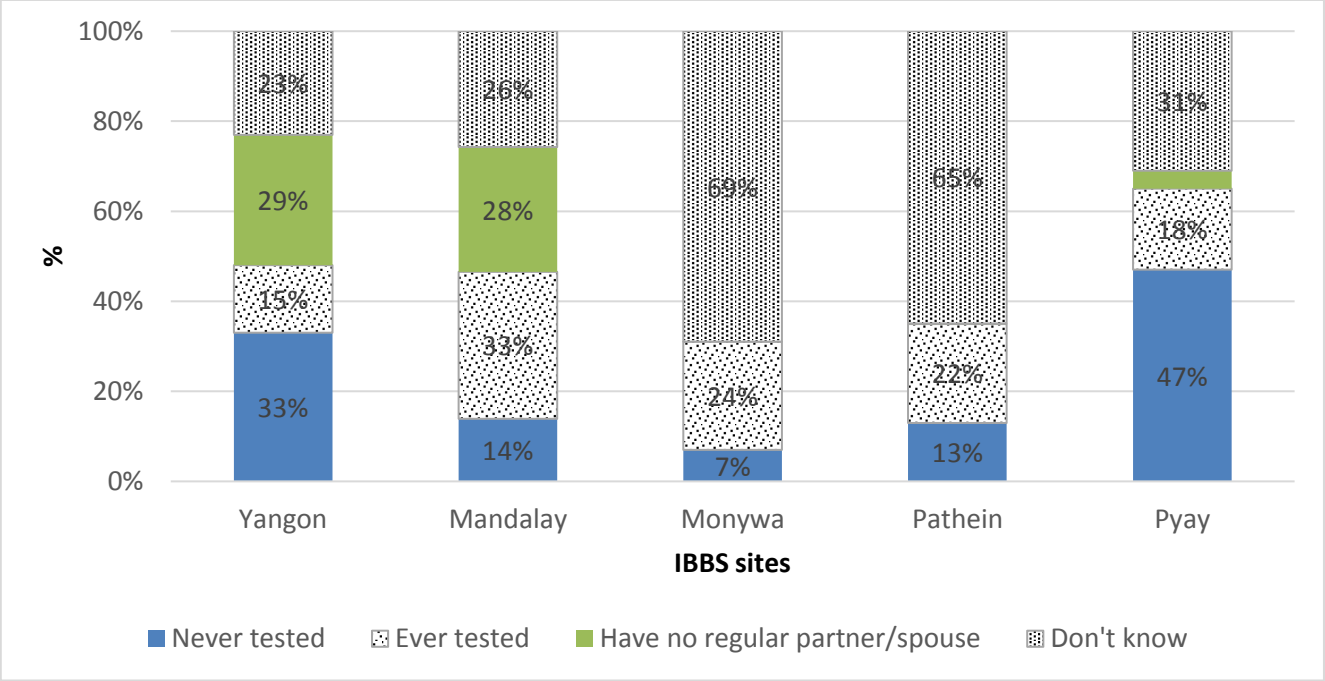
D. STI service utilization

Among those who had experienced STI symptoms in the past 12 months, almost all (98%) respondents in Mandalay sought some type of treatment. This was high compared to 65-72% reported by respondents in Monywa, Pathein, and Pyay.[25] In Mandalay, the most common type of treatment sought was self-

[25] Due to limitations with RDS-A, point estimates could not be computed for seeking treatment for STI symptoms in Yangon.

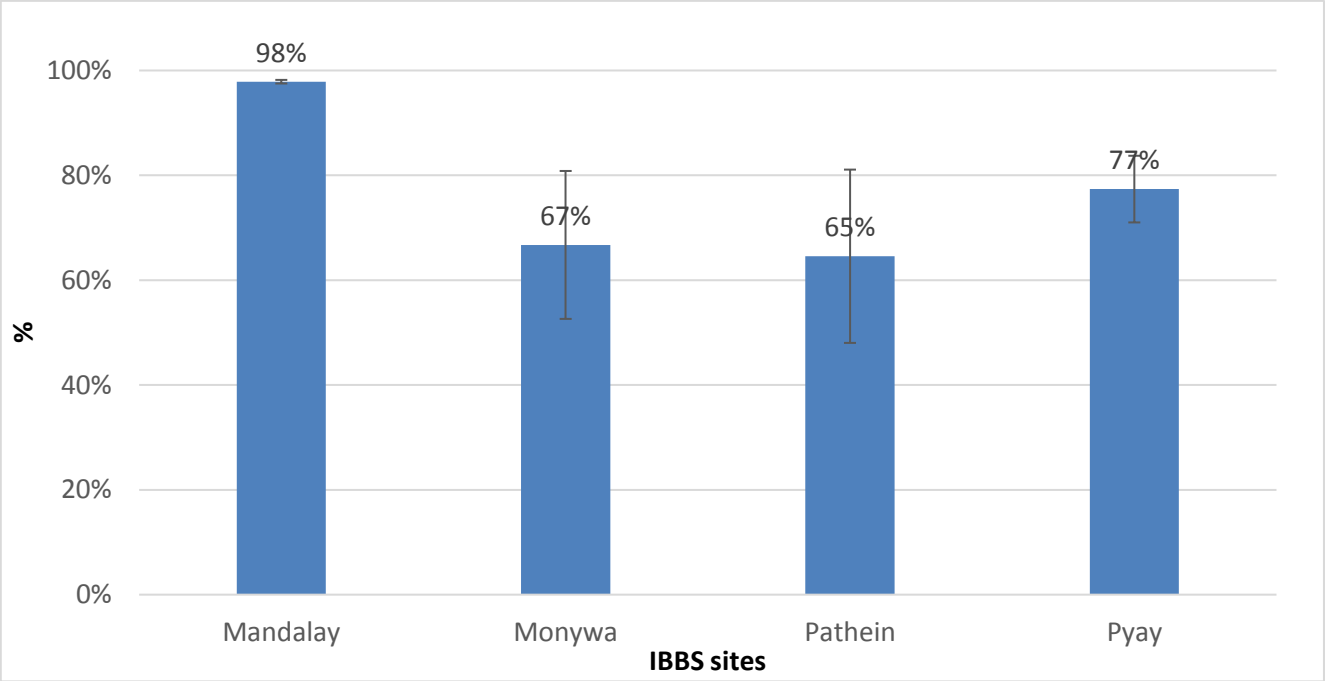
medication (46%), while in Monywa, the most common place of treatment was an NGO clinic (50%). And in Pathein, private clinics were the most commonly reported place for seeking STI treatment (59%).

Figure 72: Proportion of last regular partners that had ever been tested reported by MSM respondents



Denominator: All respondents

Figure 73: Proportion who sought treatment reported by MSM respondents who experienced STI symptoms in the past 12 months



Denominator: Those who experienced STI symptoms in the past 12 months

13. Population size estimates

Table 5: Results of calculated MSM population size estimates

Survey Site	Size estimate	% of adult male population (15+)
Yangon		(1,947,305)
Unique Object	15200	0.78%
TOP Centre Visit Programme Multiplier	4787	0.25%
TOP Centre HIV test Programme Multiplier	4953	0.25%
SS-PSE (median)	15569	0.80%
WOC (Best mean)	--	--
NGO most likely	18300	0.94%
Mean of all methods	37307	1.92%
Mandalay		(608,114)
Unique Object	1433	0.24%
TOP Centre Visit Programme Multiplier	1635	0.27%
TOP Centre HIV test Programme Multiplier	1892	0.31%
SS-PSE (median)	--	
WOC (Best mean)	12622	2.08%
NGO most likely	10150	1.67%
Mean of all methods	5546	0.91%
Monywa		(119,368)
Unique Object	1231	1.03%
TOP Centre Visit Programme Multiplier	1421	1.19%
TOP Centre HIV test Programme Multiplier	1307	1.10%
SS-PSE (median)	--	
WOC (Best mean)	2244	1.88%
NGO most likely	1400	1.17%
Mean of all methods	1521	1.27%
Pathein		(128,309)
Unique Object	853	0.66%
TOP Centre Visit Programme Multiplier	2032	1.58%
TOP Centre HIV test Programme Multiplier	1773	1.38%
SS-PSE (median)	1818	1.42%
WOC (Best mean)	406	0.32%
NGO most likely	2300	1.79%
Mean of all methods	1530	1.19%
Pyay		(83,530)
Unique Object	574	0.69%
TOP Centre Visit Programme Multiplier	871	1.04%
TOP Centre HIV test Programme Multiplier	1158	1.39%
SS-PSE (median)	6252	7.48%
WOC (Best mean)	103	0.12%
NGO most likely	1200	1.44%
Mean of all methods	1693	2.03%

The results obtained from the different PSE methods for MSM for each township are shown in Table 5. The mean resulting PSE as a percentage of adult males across methods in each township ranged from 0.9% to 2.0% of the male population aged 15 and older.

These data were used during a validation workshop comprised of NGO and government representatives, members of key populations, and other stakeholder in the first step of a process to estimate the population sizes of MSM for the entire country of Myanmar.
Using the findings in Table 5, stakeholders broke into five groups, each representing one of the townships. Groups were asked to assess each of the PSE multiplier methodologies and results according to specific biases inherent in those methods. The assessment of bias data was inputted into a spreadsheet to adjust multipliers based on over or underestimations. Groups also gained consensus of the most reasonable PSE based on their own knowledge and experience.

Table 6: Final population size estimates in survey townships after consensus and bias adjusted

Survey township	**MSM**	
	Size estimate	*% of 15+ male population*
Mandalay (7 tsp)	11,419	1.88%
Monywa	1,860	1.56%
Pathein	2,475	1.93%
Pyay	1,375	1.65%
Yangon (YCDC)	23,354	1.20%

The next step undertaken at the workshop was to obtain the consensus on the national MSM estimated population in Myanmar. First, important indicators related to the presence of MSM in each township were identified by the large group. As the second step, workshop participants were organized into smaller groups according to their knowledge on geographical locations, social, economic and political factors related to the presence of MSM. Then, the smaller groups scored each township based on the identified indicators and categorized the remaining townships apart from the survey area into three different categories – high, medium and low based on their presence of MSM. The issues that were considered in this categorizing process include being the metropolitan city with less social norms attached, recreation or tourism sites, the development of trading/border area, mining and industrialization with predominantly male labour, presence of university/college, area for base of military forces, and presence of male sex workers.

The third step was to define the MSM proportion from the 15+ male population for these high, medium and low categories. This was accomplished after the extensive secondary literature review of materials related to the presence of MSM in Myanmar and the detailed analysis of existing MSM program data. After identification of the proper proportions for each category, these proportions were applied to the 15+ male population of all the townships in respective categories, and the national estimate for all types of MSM population was finally derived, which was 252,000.

As the HIV response programme mainly focus on MSM who could be reached by HIV prevention services, the working group again had to determine the proportion of reachable MSM through our survey findings and literature review of the region and Myanmar. Finally, decided that only half of the total MSM being reachable by normal HIV prevention services, the estimated number of reachable MSM became 126,000.

Conclusions and recommendations for programming

This survey represents the second time in Myanmar that a survey which measures both behaviours and biological markers among MSM has been conducted in two major metropolitan areas, and the first time such a survey has been conducted in three other high priority townships.

Overall, the respondents were young (under age 30), had some formal education, and were earning more than 100,000 kyats monthly.

The results of these surveys confirm the importance of providing high quality HIV prevention, care, support, and treatment services to MSM population in Myanmar. To the extent that this RDS survey, despite its limitations, is able to capture a more diverse component of the MSM community compared to samples from HSS, it appears that HIV prevalence is high (>15%) in a broad cross section of MSM in Yangon and Mandalay.

Local terminology uses three sub-groups (Apwint, Apone and Tha Nge) with distinct sexual behaviors and risk profiles, hence a need for differentiated approaches in HIV prevention when targeting the MSM community. Across all five IBBS sites, there was a strong consistency in terms of gender identity and usual anal sex position among those identifying in each group.

Higher HIV prevalence was found among Apwint (ranging from 16% in Pyay to 62% in Yangon) compared to Apone and Tha Nge (except in Mandalay where the prevalence among Apwint and Apone was similar). Apwint reported being usually the receptive partner (bottom) and having a significant higher number of anal sex partners ranging from 20-40 (compared to 3-7,5 partners for Tha Nge). Both behaviors increase individuals' vulnerability to HIV infection. These parameters between sub-groups are key and need to be taken into consideration when designing tailored HIV prevention programs.

Furthermore, it was shown that a significant proportion of Tha Nge were attracted mostly to females or equally to males and females calling for greater attention to onward transmission between MSM and female partners (incl. spouse). As most Tha Nge are hidden and therefore, might not be reached by conventional prevention methods, new technologies such as the use of social media campaigns might be a more effective mean of communication.

The data shows low median age at first vaginal or anal sex among MSM (between 16 and 17 years) and lower HIV prevalence in the younger age groups (<25 years), as well as in those who had a shorter time period of having sex with men (=< 1 year). This highlights the importance of developing prevention messages that are targeted to very young MSM to arm them with the necessary tools to reduce risky behaviors.

Respondents who reported STI symptoms such as urethral/rectal discharge or genital ulcers in the last 12 months varied from 6% in Pyay to 19% in Yangon. STI prevention messaging should go along with HIV prevention programs as STI increase the risk of one getting infected by HIV.

As measured by use at last anal sex act (with any type of partner), reported condom use was over 80% in three sites, and nearly 70% in the other two sites. Nevertheless, condom use with casual male sex partner, especially in Yangon, was shown to be inconsistent. These numbers indicate the need to focus on condom education in prevention programs as it is the only prevention tool against HIV available in Myanmar at the moment.

More than 95% of respondents were able to name a place to get condoms. Nevertheless, more than half of respondents in the three smaller sites (Monywa, Pathein, and Pyay) reported only sometimes being able to get condoms when needed. Moreover, the clear majority of these condoms came from NGO programs. These indicators need to be carefully monitored and the level of accessibility to condoms maintained as the country will soon start transitioning from an HIV response mainly supported by external donors to a national government led response.

Comprehensive knowledge about HIV transmission and methods of prevention was low (30%) in Yangon compared to over 80% in Mandalay and Pyay. HIV prevention coverage was higher than 50% in all sites but Yangon and Monywa had significantly lower percentages compared to the other 3 sites. The combination of these two indicators calls for the roll out of intensified HIV prevention programs mainly in Yangon.

The proportion of respondents who had been tested in the last year and received the result was below 40% in Monywa and Yangon compared to over 60% in Pathein and Mandalay. Although these indicators are higher compared to FSW (IBBS 2015), encouraging testing should remain a priority to reach the first "90" and start treatment as early as possible. More than three quarters of the respondents were tested at an NGO clinic. This should be taken into account in the future when private non-for-profit services will be transitioned towards public services. Government facilities will have to be prepared to deliver such services, to cope with the workload and to be trained specifically to address the specific needs of the MSM communities, including non-stigmatizing approach to encourage this key population to get tested.

In Mandalay, only 40% of PLHIV MSM respondents knew their status, meaning that given the high HIV prevalence and population size of that city, a large number of MSM don't know their status. Increasing the number of MSM tested in Mandalay is urgent. HIV program managers and MSM communities should assess how to encourage and facilitate HIV testing among MSM.

The very low percentage (between 4% and 32%) of MSM who have disclosed to their family that they have sex with men indicates the persistence of a taboo around homosexuality. Decriminalization of same sex intercourse will be a major step into behavior and perception changes. Meanwhile, awareness-raising campaigns to the public and trainings to the law makers and media should be carried out in order to reduce stigma and discrimination.

Although a very little proportion of MSM in Yangon and Mandalay report not to be afraid to seek health care services, this proportion increases in the other 3 sites and peaks to a third of respondents in Pathein being sometimes, often or always afraid to seek health care. This might indicate that health services might be less MSM-friendly outside metropolitan areas.
Training for health workers for less stigmatizing health services should be provided.

Police harassment seems to be more common in metropolitan areas with one fifth of respondents in Mandalay reported often or always being harassed by police related to being MSM and one fifth of respondents in Yangon experiencing sometimes, often or always harassment from the police. This clearly shows the need for additional trainings to law-enforcement on reducing stigma and discrimination.

Through a process of consensus building and triangulation of multiple methods, this survey estimated the size of MSM populations in each survey catchment area. Overall, the results were very similar to NGO best estimates based on program experience.

As is expected with surveys of hard-to-reach and hidden populations such as MSM, there are some limitations to the sampling methods ability to reach a representative sample of the MSM community. Local stakeholders provided some feedback as to their perception of the survey's ability to reach a sample representative of the geographic area and composition by group identity or HIV status. And for a few key variables the sample in some townships did not result in reliable estimates. This includes HIV prevalence measures in Yangon; prevention coverage and testing in Monywa, and numbers of partners in Yangon. Nevertheless, the qualitative assessment from local service providers and analytic assessment conducted with the statistical software package support the appropriate interpretation and use of the data to improve services and more effectively respond to the HIV epidemic.

Annex 1. Detailed description of population size estimation methods used

The population sizes of PWID were estimated using five methods: 1) the unique object multiplier; 2) the service multiplier method[26]; 3) the successive sampling size (SS-PSE) method[27]; 4) Wisdom of the Crowds; and, 5) key informant and NGO 'best guesses'. Each of these methods are described below.

Multiplier methods[28]

The unique object and service multiplier methods involve two overlapping but independent data sources to estimate the size of a specified target population. One data source provides a count of a sub-group of the target population with a specific characteristic; the second data source provides the proportion of the target population with that specific characteristic. The proportion must come from a representative sample of the target population.

The assumptions for the multiplier are:

- Both data sources use the same definition for the target population.
- Only individuals who meet the definition of the target population are included in each data source.
- Limited in- and out-migration during the period between the count and the proportion are generated.

The mathematical formula to calculate the population size for the multiplier method is:

N= M/P

Where:

N=Estimated Size

M=Number of target population members who have a specific characteristic (e.g. Number who received the object or service provided.

P=Proportion of target population members in survey who have the specific characteristic (e.g. reported receiving the object/service).

Unique object multiplier

The unique object multiplier involves distributing unique objects to population members in each survey township one week prior to initiating the RDS study. The number of objects distributed are counted (first multiplier) and used in a calculation with the proportion of those who reported receiving the object (second multiplier) to derive a population estimation. Unique objects should consist of an item that is of no monetary value, so people neither give them away nor sell them, and is easy to remember. This study used small jade pendants with "IBBS" inscribed on them and attached to a black cord. The unique objects were distributed in each of the survey townships by NGO staff to persons matching the eligibility criteria. NGO staff ensured that no person received more than one object and that objects were distributed in a manner consistent with ordinary service delivery activities. NGOs recorded data about how many objects were distributed, how many were refused and the reasons for any refusals.

To measure how many participants received a unique object multiplier, they were asked during the survey: "Did you receive a pendant in the week of [dates of distribution of unique object] that was given to you by outreach workers of [add name of NGO]?"

Service multiplier

The service multiplier used service data consisting of the unique counts of population members who received a service in each survey township during January to March 2015. The second multiplier was enumerated during the RDS survey by asking each respondent whether they had exposure to the service at least one time

[26] UNAIDS. Guidelines on Estimating the Size of Populations Most at Risk to HIV. Accessed on August 15, 2012 at: whqlibdoc.who.int/publications/2010/9789241599580_eng.pdf.

[27] Handcock M, Gile K, Mar C. 2012. Estimating Hidden Population Size using Respondent-Driven Sampling Data Electron. J. Statist. Volume 8, Number 1 (2014), 1491-1521. Accessed on November 19, 2014 at: http://projecteuclid.org/download/pdfview_1/euclid.ejs/1409619420

[28] Calculated using the successive sampling estimator and adjusted standard errors in RDS Analyst.

during January to March 2015. Service data included receiving an HIV test from a specified NGO/heath center and visiting a specified NGO/heath center. To measure how many participants received services, they were asked during the survey:

"Did you receive an HIV test from [specific name of NGO/health center here] during January to March 2015 (3 months)?"

"Did you visit [specific name of NGO/health center here] during January to March 2015 (3 months)?"

SS PSE

The SS-PSE method, uses each participants' social network size data gathered during the RDS studies to quantify population sizes by assuming that the network size distribution of successive waves reflects a depletion of the population. The estimates use a Bayesian framework (i.e., quantifies uncertainty about unknown quantities by relating them to known quantities) incorporating information about a "guess" or prior knowledge of the size of the sampled population. The Bayesian framework also allows the computation of probability intervals.

Wisdom of the crowds

These estimates were elicited by asking participants in each of the studies, their best guess about the most likely highest, lowest and accurate number of their respective population members in each the survey townships.

NGO 'best guesses'

This method uses enumeration based on the estimates of key informants and NGOs working with FSW and MSM in each of the study townships. Key informants and NGOs in each survey site was asked to respond to questions about the most likely highest, lowest and accurate number of population members in each the survey township.

Approximate population size estimates used for Giles SS estimator

Township	Estimated population size
Yangon	18,300
Mandalay	10,150
Monywa	1400
Pathein	2300
Pyay	1200

Annex 2. Description of Survey Sites

Yangon City (Adult Male Population: 1.9 million)

Yangon was the former capital of Myanmar situating in lower part of Myanmar and is the capital of Yangon Region. Yangon is the country's main center for trade, industry, real estate, media, entertainment and tourism. It's an economically strategic point and also a gateway to lower part of the country, and also the largest metropolitan city in the country. The whole Yangon region is divided into four districts Western, Eastern, Southern and Northern with 45 townships altogether with different kind of populations. Yangon City, the study area consists of 34 townships residing a total population of nearly 5.5 million. There is a total of eight AIDS/STD Teams and 12 NGO/INGOs providing HIV prevention and care services in Yangon during 2015. Out of these implementing partners, 3 of them primarily provide treatment and care services. There are 3 Tertiary HIV Specialist Hospitals providing HIV treatment and care namely Mingalardon, Waibargi and Tharkayta hospitals. Moreover, there are many Community Based Organizations (CBO) and Self-Help Groups (SHG) working in Yangon region providing counselling, health talks on prevention of HIV/STI, and referral for HIV/STI testing and sexual and reproductive health rights for MSM. The RDS centre was established in Puzundaung township at the hub of city which belonged to Eastern part of Yangon.

Mandalay City (Adult Male Population: 0.6 million)

Mandalay is the second-largest city and the last royal capital of Burma. Located 445 miles (716 km) north of Yangon on the east bank of the Irrawaddy River; the city has a total population of 1.7 million and is the capital of Mandalay Region. Mandalay is Upper Burma's main commercial, educational and cultural hub. Mandalay city is divided to 7 townships. The city is also connected to China and India by multiple modes of transportation. As regards services for MSM, there is an ART/STI Centre run by AIDS/STD team in Mandalay as well as several NGO/INGOs that provide services for MSM – The Union mainly supporting to NAP, Population Services International (PSI), Marie Stopes International (MSI), International HIV/AIDS Alliance in Myanmar (Alliance), Burnet Institute (BI) through the Myanmar Business Coalition for AIDS (MBCA), and Consortium. Myanmar Anti-Narcotics Association (MANA) is also offering prevention services for MSMs in addition to PWID population. There also are few CBOs and SHGs carrying out HIV prevention outreach activities among MSM and referring their clients to NGOs for HIV/STI testing and necessary treatment and care and MSM sexual and reproductive health rights. The RDS centre was located in Aung Myay Thar Zan township.

Pathein (Adult Male Population: 0.13 million)

Pathein, with a total population of 0.38 million, is the capital of Ayawaddy Region which is the delta area. With the area of 1447.80 sq-km, it is situated on the banks of the Nkawon River and easily accessible to Yangon and nearby towns. Situated 190 kilometres (120 mi) west of Yangon and it is also the fourth-largest city in Myanmar. Although there are many rivers, the bridges are well built and can travel 24 hours. The unique feature of Pathein township is the 2 famous beaches Ngwe Saung and Chaung Thar situating less than 40 miles away from Pathein. These are very popular for local tourism. Agricultural, business government/ non-government staffs are main stay of living. Apart from NAP's well set up AIDS/STD team and clinic, there are 4 NGO/INGOs working for MSM; PSI, MSI, Consortium and Pyi Gyi Khin (PGK). There are also CBOs and SHGs who are working on health of the community in relation to HIV prevention, referral services and MSM rights for sexual and reproductive health.

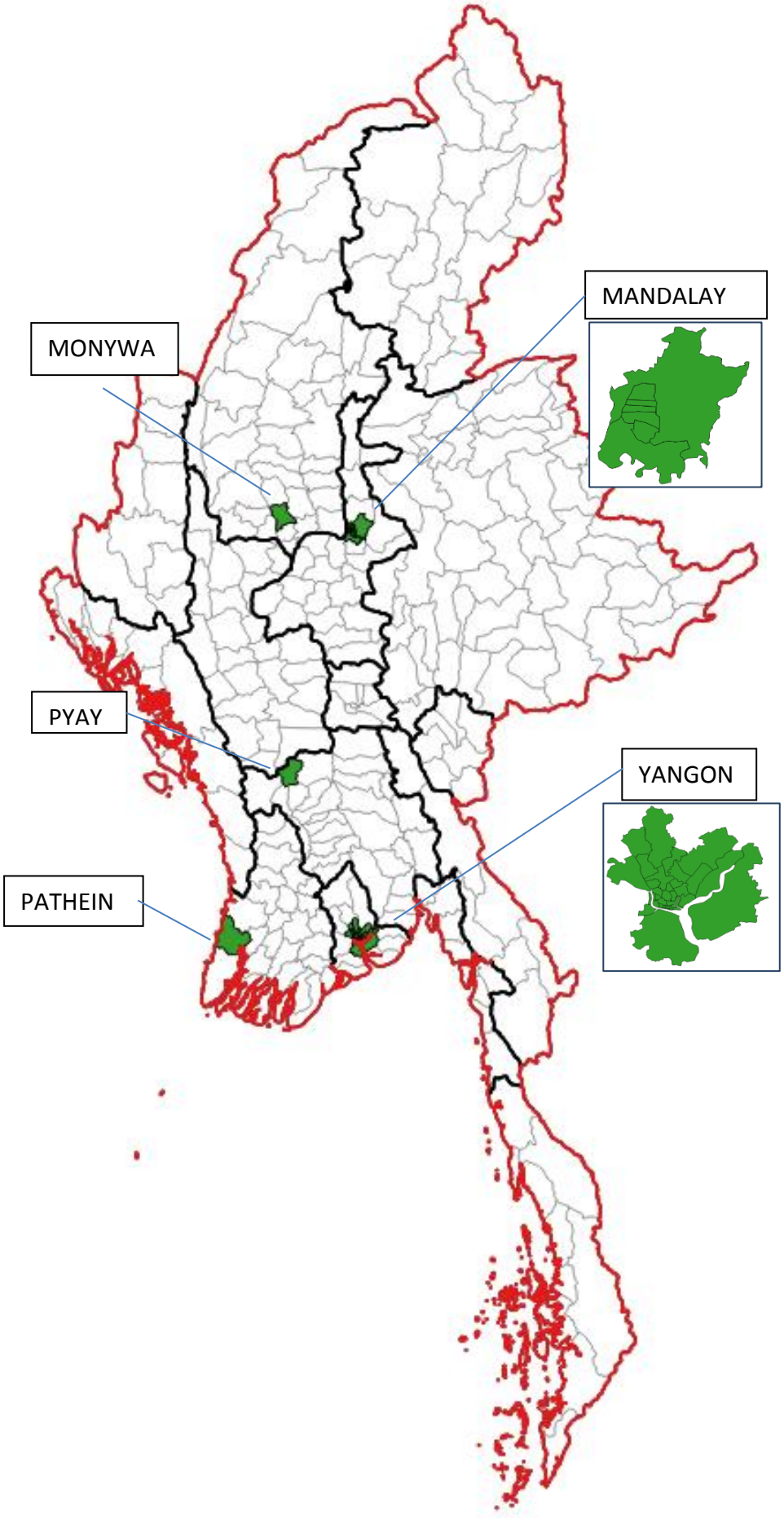
Monywa (Adult Male Population: 0.12 million)

Monywa is the capital of Sagaing Region, located 136 km north-west of Mandalay on the eastern bank of the River Chindwin. It's an economically strategic point and also a gateway to north-western part of the country. The city has 26 quarters with well distribution of different socio-economic class with different populations of 0.37 million. There are one NAP's AIDS/STD team and 5 NGO/INGOs: Alliance, Consortium, PSI, MSI and BI though MBCA, working hand in hand with NAP to offer prevention, treatment and care services for MSM. In addition, there is a very strong MSM SHG called Khine Hnin Si working on prevention services and sexual and reproductive rights for MSM.

Pyay (Adult Male Population: 0.08 million)

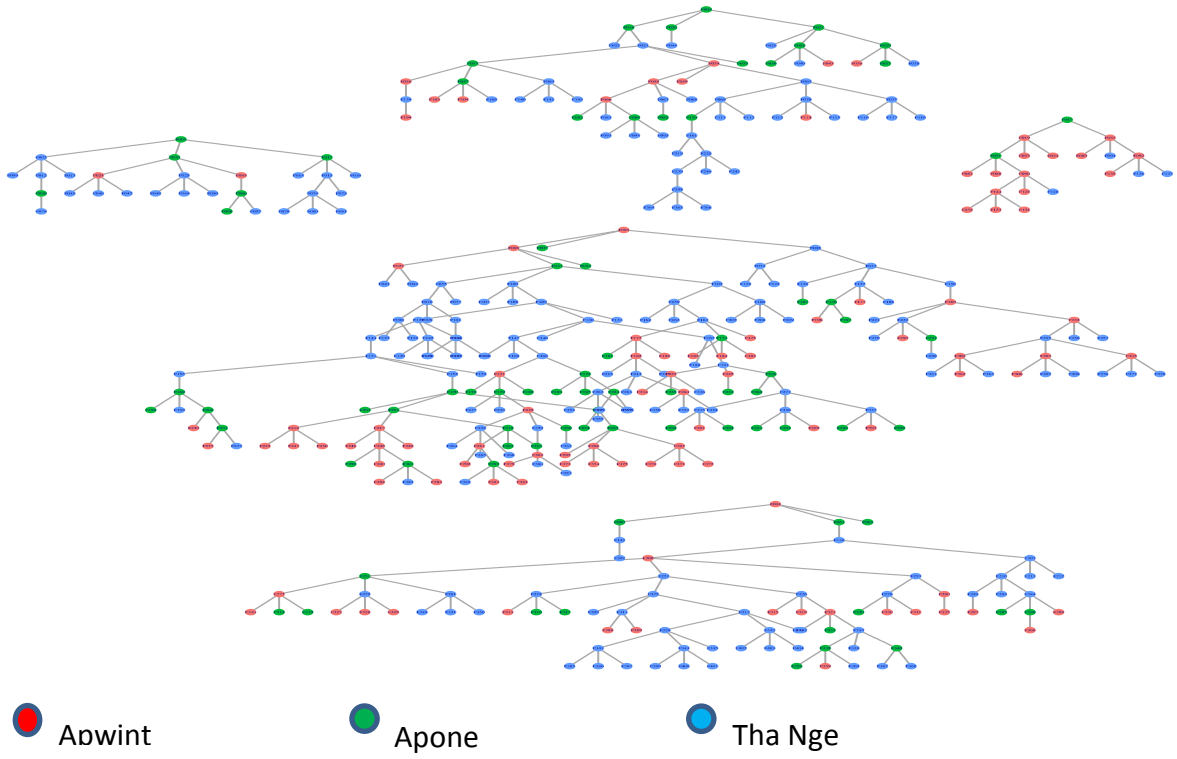
Pyay residing a total population of 0.25 million is situated on the banks of the Ayeyarwady River and is 260 km (160 mi) north-west of Yangon. It has much transit and trade as it is located on an important cross-road. It also is the capital Bgao (West) Region and also an important trade city. The township is divided in 10 quarters. There is a NAP AIDS/STD Team in Pyay and additionally 5 NGOs providing HIV prevention, treatment and care services for MSM - PSI, MSI, Alliance, BI through MBCA and Consortium. There also are a few CBOs and SHG carrying out HIV prevention outreach activities among MSM refering their clients to NGOs for HIV/STI testing and further management and for MSM rights regarding sexual and reproductive health.

Map of survey sites

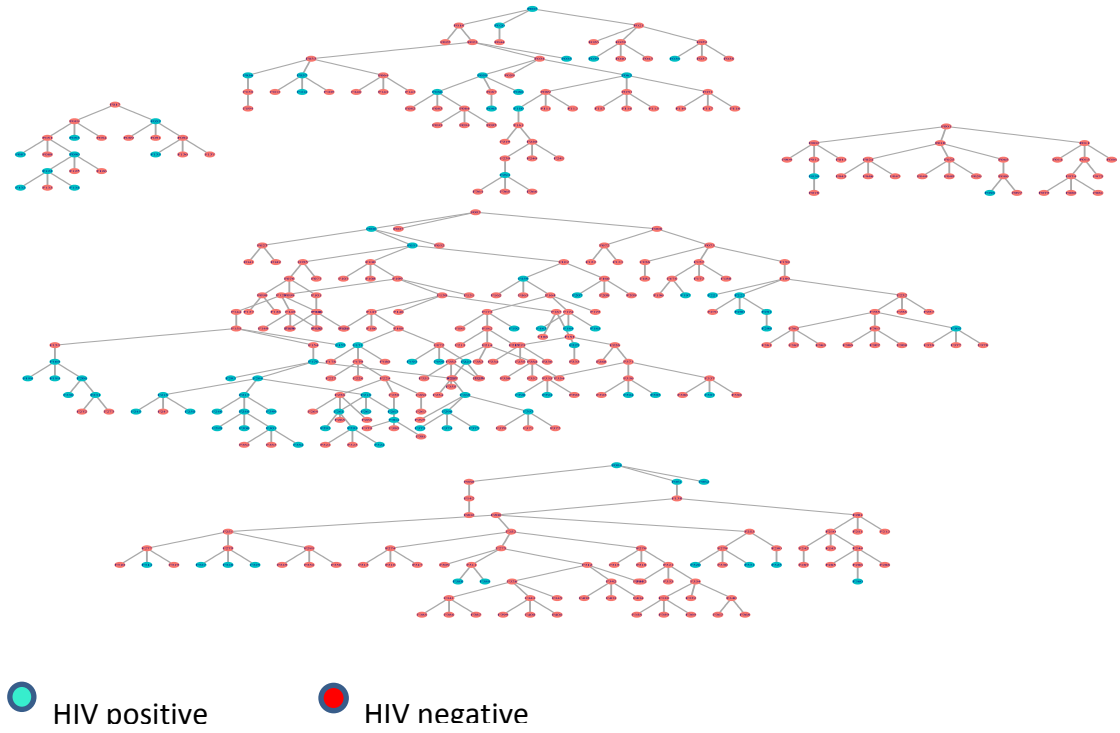


Annex 3. Examples of recruitment chains by key variables failing to reach convergence

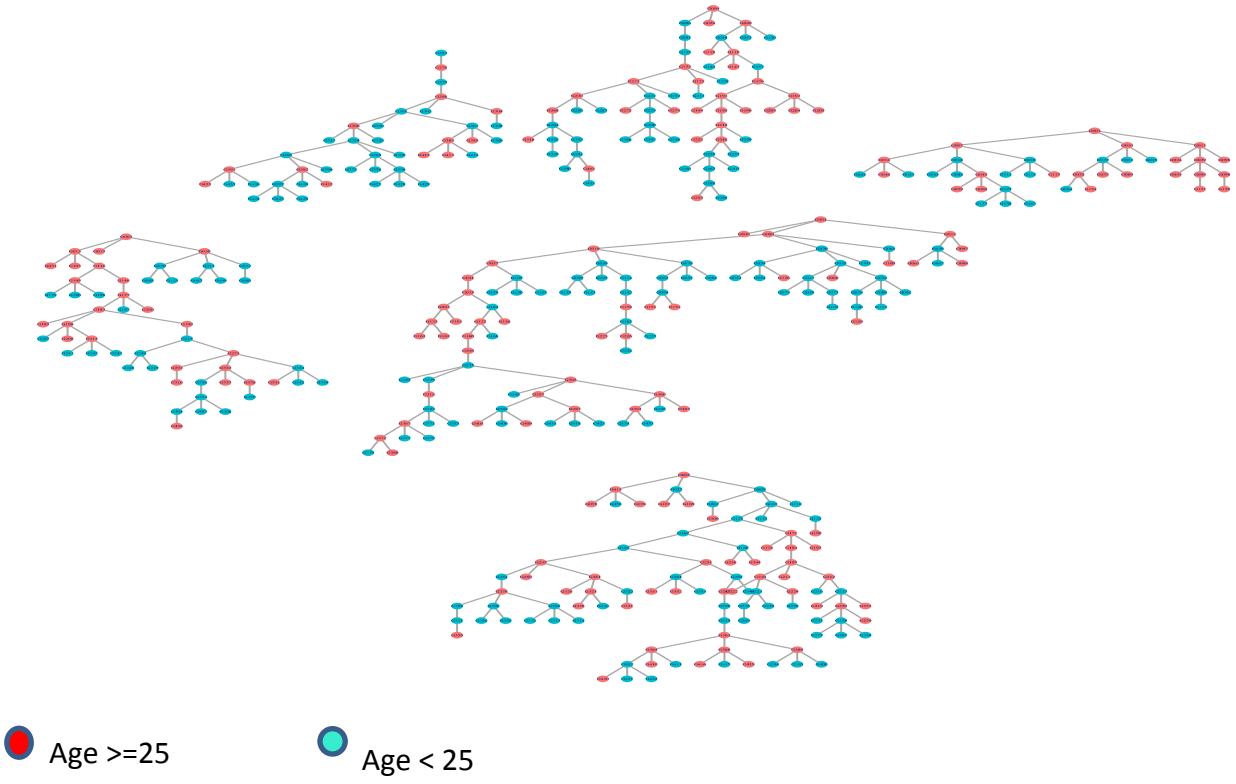
Yangon recruitment by group identity



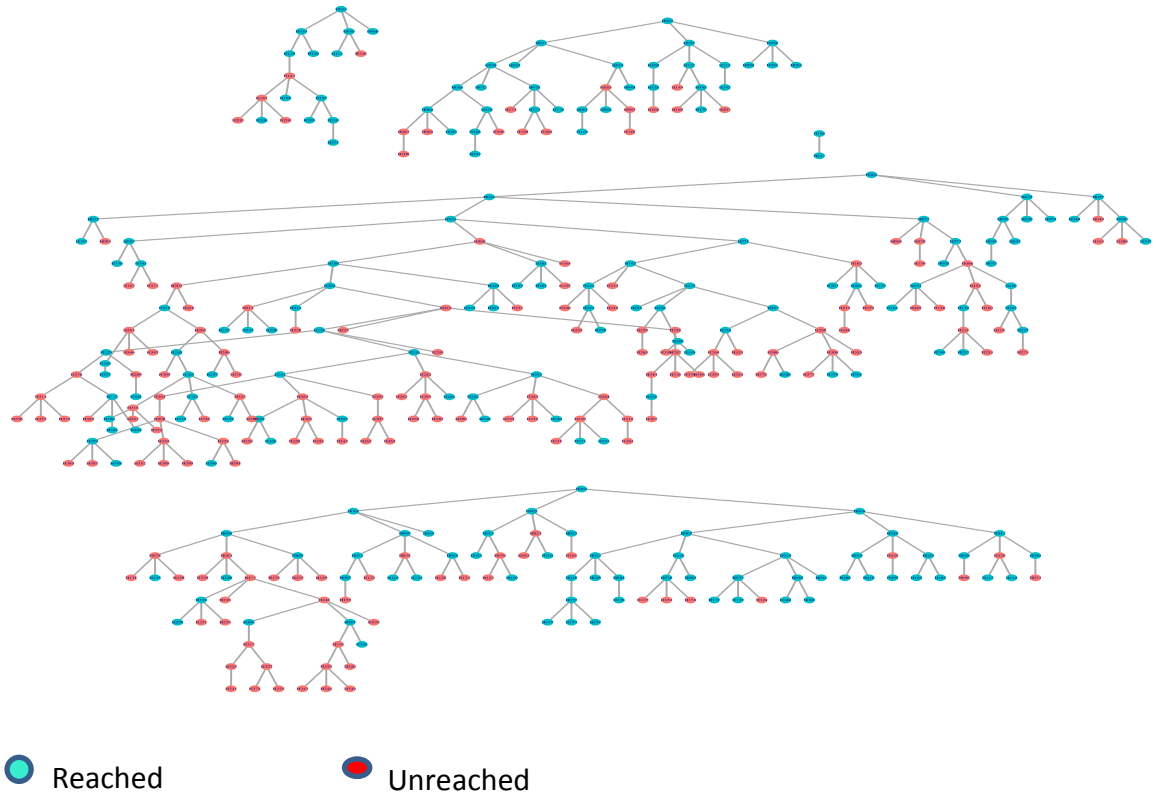
Yangon recruitment by HIV prevalence



Mandalay recruitment by age less than 25 years



Monywa recruitment by prevention coverage



Annex 4: Survey Questionnaire

Participant ID Number: ☐ ☐ ☐ ☐

Questionnaire

Integrated Bio-behavioural Surveillance Survey in Men who have sex with Men and Transgender People in Myanmar 2015

RDS Coupon Number ☐ ☐☐ ☐☐ ☐☐☐☐

INTRODUCTION

1. Greet participant (for example: Mingalarbar, Good Morning/Good Afternoon/Good Evening)
2. Introduce yourself and thank participant for taking the time to participate in the survey.
3. Emphasize the confidentiality of the responses and reassure the participant that his name or other personal identification information are not recorded in the questionnaire.

1. Note to interviewer: The interviewer should circle the correct answer code. Interviewers will fill in Q. 101 and Q. 102. The site manager will fill in Q. 103 and Q. 104 after the questionnaire is completed.

2. The first box is for RDS site code. The second and third boxes are for seed number. The fourth and fifth boxes are for wave number and the last four boxes are for filling the serial coupon number.

Participant eligibility criteria:

(1) Biological male aged 15 years or older; (2) has had anal sex with a man in the past six months; and (3) currently living in the survey town.

BLOCK I. INTERVIEW INFORMATION				
#	Question	Answers	Codes	Skip to
101	Name of interviewer	Name_____		
102	Date/ time of interview	Date __ __ / __ __ __ / __ __ (D D/ M M/ Y Y) Time ----------		
103	Survey checks done by the **supervisor**	a. The participant ID and coupon numbers were checked b. The entire survey was checked for consistency and errors		
104	These answers for this survey have been scrutinized for completeness and consistency by:			
	Name of **supervisor** _____ __	Date of examination __ __ / __ __ __ / __ __ (D D/ M M/ Y Y)	Signature	
105	Record how respondent is dressed	Man Woman Unclear	01 02 03	

BLOCK II. DEMOGRAPHIC/GENERAL CHARACTERISTICS				
#	Question	Answers	Codes	Skip to
201	How old are you now? (Must be older than 15 years) If under 15 years, inform supervisor.	Age in completed years _____ Don't know/ remember	 88	
202	What is your ethnicity? IF ANSWERED MORE THAN TWO, ASK THE MAJOR TWO ETHNICITY AND CIRCLE THEM DO NOT READ LIST	Bamar Kachin Kayin Shan Mon Rakhine Chin Kayah Other (specify):_____ Don't know/ remember No answer	01 02 03 04 05 06 07 08 77 88 99	
203	In what township do you currently reside?	Name of township: _____		
204	How long have you been living continuously in this township/neighborhood?	___ ___ Years ___ ___ Months No answer	 99	
205	Before you moved here, where did you live?	Name of township:		

		_____ Not applicable, have always lived here No answer	 78 99	If 78, skip to 207
206	If you have moved, why did you move? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	For work For education/studies For health reasons Family moved Moved with partner Separated from family due to disaster/conflict/family conflict Stigma and discrimination Other (specify):_____ No answer	01 02 03 04 05 06 07 77 99	
207	Can you read and/or write in Myanmar? CIRCLE ONLY ONE RESPONSE	Cannot read nor write Can read only Can write only Can read and write No answer	01 02 03 04 99	
208	Have you ever been to school?	No Yes	00 01	If No, skip to 211
209	Are you currently a student?	No Yes	00 01	
210	What is the highest level of education you have completed?	1st-4th standard 5th-8th standard 9-10th standard University/College No answer	01 02 03 04 99	
211	In the last 12 months, what were your sources of income? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Salaried (Public/private sector) Artist (e.g. painter, photographer, actor, dancer) Sex worker Fashion designer Decorator/Interior designer/Florist Farming/agriculture Manual/unskilled laborer Driver/transport worker Trade/business/shop Beauty salon Natgadaw Hospitality Industry (Hotel/restaurant) Unemployed/Dependent on others	01 02 03 04 05 06 07 08 09 10 11 12 13 77	

		Other (Specify)_____ No answer	99	
212	In the last 12 months, from the above sources that you mentioned, what was your <u>main source</u> of income? CIRCLE SINGLE BEST RESPONSE. DO NOT READ LIST	Salaried (Public/private sector) Artist (e.g. painter, photographer, actor, dancer) Sex worker Fashion designer Decorator/Interior designer/Florist Farming/agriculture Manual/unskilled laborer Driver/transport worker Trade/business/shop Beauty salon Natgadaw Hospitality Industry (Hotel/restaurant) Unemployed/Dependent on others Other (specify):_____ No answer	01 02 03 04 05 06 07 08 09 10 11 12 13 77 99	
213	In the last 12 months, what was your average monthly income?	Kyats _____ No answer	99	
214	What is your current marital status? READ OUT ANSWER CHOICES AND PARTICIPANT TO SELECT **<u>ONE BEST ANSWER</u>**.	Married to a woman Ever married, now divorced/separated/widowed Never married No answer	01 02 03 99	
215	With whom do you currently live? CIRCLE SINGLE BEST RESPONSE. <u>DO NOT</u> READ LIST	Live with spouse Live with male partner Live with other female partner (not wife) Live with parents/ relatives Live with friends Live with children Live alone Other (Specify)_____ No answer	01 02 03 04 05 06 07 77 99	

BLOCK III.
SEXUAL IDENTITY
Now I would like to ask you some questions regarding your sexual identity

#	Question	Answers	Codes	Skip to
301	What gender do you consider yourself?	Male Female Transgender	01 02 03	
302	What kind of sexual attraction do you have? READ OUT ANSWER CHOICES AND PARTICIPANT TO SELECT ONE BEST ANSWER.	Only attracted to males Mostly attracted to males Equally attracted to both males and females Mostly attracted to females Only attracted to females Not sure/Don't know No answer	01 02 03 04 05 88 99	
303	In which group do you identify yourself? CIRCLE SINGLE BEST RESPONSE. READ LIST	Apwint (Open) Apone (Hidden) Tha Nge No answer	01 02 03 99	

Q405 a-g. **OUTNESS**
Now I would like to know who knows you are having sex with men.

Of your [*READ OUT ONE AT A TIME*], would you say none, some, most or all of them know that you have sex with men?	None	Some	Most	All	N/A
a. Close Friends	1	2	3	4	99
b. Family	1	2	3	4	99
c. Relatives	1	2	3	4	99
d. Male friends	1	2	3	4	99
e. Female friends	1	2	3	4	99
f. Employer	1	2	3	4	99
g. Co-workers	1	2	3	4	99

BLOCK IV.
GENERAL SEXUAL HISTORY
Now I would like to ask you some questions regarding your sexual history

#	Question	Answers	Codes	Skip to
401	How old were you when you had vaginal or anal sex for the first time?	Age in completed years _____ Don't know/remember No answer	 88 99	

402	Was your first sexual partner male or female?	Male Female Don't know/remember No answer	01 02 88 99	If answered Male, skip to 404
403	How old were you the first time you had anal sex with a male partner?	Age in completed years_____ Don't know/remember No answer	 88 99	
404	In what position have you ever had anal sex?	Top (insertive) Bottom (receptive) Both top and bottom	01 02 03	
405	In the last 12 months, in what position do you usually have anal sex?	Top (insertive) Bottom (receptive) Both top and bottom	01 02 03	
406	In the last 12 months, with how many male partners did you have anal sex?	Number of partners _____ Don't know/remember No answer	 88 99	
407	In the last 1 month, with how many male partners did you have anal sex?	Number of partners _____ Don't know/remember No answer	 88 99	If 0, skip to 410
408	In the last 1 month, how many anal sex acts with male partners have you had?	Number of sex acts_____ Don't know/remember No answer	 88 99	
409	In the last 1 month, with what frequency did you use condoms during anal sex with male partners? READ THE FIRST FIVE RESPONSES. PARTICIPANT TO SELECT ONE BEST ANSWER.	Always Most times About half the times Occasionally Never No answer	01 02 03 04 05 99	
410	The last time you had anal sex, was a condom used?	No Yes No answer	00 01 99	If Yes, skip to 412
411	If a condom was not used, why? CIRCLE ALL THAT ARE MENTIONED. DO NOT READ LIST	Not easily available Expensive Was under the influence of alcohol/drug Sex partner doesn't like to use it I don't like to use it Both don't like to use it Don't think it is necessary Don't think of it/forgot I know this partner well	01 02 03 04 05 06 07 08 09	

		Other(Specify)_____ No answer	77 99	
412	Have you ever had group sex?	No Yes No answer	00 01 99	If No, skip to 414
413	In a situation of group sex, how do you usually use condom?	Used one condom with multiple partners Changed condom with every partner Not used any condom Don't remember No answer	01 02 03 88 99	
414	With what type of partners have you ever had anal or vaginal sex? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Regular male partner Casual male partner Ccommerical male partner Female partner	01 02 03 04	If answered 01, block V has to be completed. If answered 02, block VI has to be completed. If answered 03, block VII has to be completed. If answered 04, block VIII has to be completed.

BLOCK V.
REGULAR MALE PARTNERS
Now I would like to ask you some questions about your <u>regular male partner(s). A regular partner is someone you have insertive or receptive anal sex with regularly and with whom you have an emotional bond.</u>

#	Question	Answers	Codes	Skip to
501	In the last 12 months, have you had a regular male partner(s)??	No Yes No answer	00 01 99	If No, skip to 507
502	In the last 12 months, with how many regular partners have you had anal sex?	Number _____ Don't know/remember No answer	 88 99	
503	What is your **usual** sexual position with your regular male partner?	Top Bottom Both top and bottom	01 02 03	

504	In the last <u>one month</u>, have you had anal sex with a regular male partner(s)?	No Yes No answer	00 01 99	If No, skip to 507
505	In the last <u>one month</u>, how many times have you had anal sex with your regular male partner?	Number of times_____ Don't know/remember No answer	 88 99	
506	In the last one month, with what frequency did you use a condom with regular male partner(s)? READ THE FIRST FIVE RESPONSES. PARTICIPANT TO SELECT ONE BEST ANSWER.	Always Most times About half the time Occasionally Never No answer	01 02 03 04 05 99	
507	The last time you had anal sex with your regular male partner, did you use a condom?	No Yes No answer	00 01 99	If Yes, skip to block VI
508	When you did not use a condom last time you had anal sex with your regular male partner, what were the reasons for not using a condom? CIRCLE ALL THAT ARE MENTIONED. DO NOT READ LIST	Not easily available Expensive Was under the influence of alcohol/drug Sex partner doesn't like to use it I don't like to use it Both don't like to use it Don't think it is necessary Don't think of it/forgot I know this partner well Other(Specify)_____ No answer	01 02 03 04 05 06 07 08 09 77 99	

BLOCK VI.
CASUAL MALE PARTNERS
Now I would like to ask you some questions about your <u>casual male partner(s). A casual partner is someone you have anal sex with without a strong emotional bond and without payment or receiving gifts or favors.</u>

#	Question	Answers	Codes	Skip to
601	In the last 12 months, do you have you a non-paying partner who you consider to be a casual male partner?	No Yes No answer	00 01 99	If No, skip to 607
602	In the last 12 months, with how many casual partners have you had anal sex?	Number _____ Don't know/remember No answer	 88 99	

603	What is your **usual** sexual position with your casual male partners?	Top Bottom Both top and bottom	01 02 03	
604	In the last one month, have you had anal sex with one or more casual male partner(s)?	No Yes No answer	00 01 99	If No, skip to 607
605	In the last one month, how many times have you had anal sex with casual male partners?	Number of times_____ Don't know/remember No answer	 88 99	
606	In the last one month, with what frequency did you use a condom with causal male partner(s)? READ THE FIRST FIVE RESPONSES. PARTICIPANT TO SELECT ONE BEST ANSWER.	Always Most times About half the time Occasionally Never No answer	01 02 03 04 05 99	
607	The last time you had anal sex with a casual male partner, did you use a condom?	No Yes No answer	00 01 99	If Yes, skip to block VII
608	During the last time you had sex with a casual partner, when you did not use a condom during anal sex with your casual partner(s), what were the reasons for not using a condom? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Not easily available Expensive Was under the influence of alcohol/drug Sex partner doesn't like to use it I don't like to use it Both don't like to use it Don't think it is necessary Don't think of it/forgot I know this partner well Other(Specify)_____ No answer	01 02 03 04 05 06 07 08 09 77 99	

BLOCK VII.
BLOCK VII. PAID, COMMERCIAL MALE SEXUAL PARTNER

Now I would like to ask you about <u>commercial sex partners, who are male that either pay you with money, gifts, or favors to have anal sex or whom you pay with money, gifts, or favors to have anal sex.</u>

#	Question	Answer	Codes	Skip to
701	In the last 12 months, Have you given money or gifts to a man in exchange for anal sex?	No Yes No answer	00 01 99	If No, skip to 708
702	In the last 12 months, with how many men whom you given money or gifts in	Number _____ Don't know/ remember	 88	

	exchange for sex have you had anal sex?	No Answer	99	
703	In the last one month, with how many men whom you given money or gifts in exchange for sex have you had anal sex?	Number _____ Don't know/ remember No Answer	 88 99	If 0, skip to 706
704	In the last one month, how many times have you given money or gifts to a man in exchange for anal sex?	Number of times_____ Don't remember/know No answer	 88 99	
705	In the last one month, with what frequency did you use condoms during anal sex with men whom you gave money or gifts for sex? READ THE FIRST FIVE RESPONSES AND PARTICIPANT TO SELECT ONE BEST ANSWER	Always Most times About half the times Occasionally Never No answer	01 02 03 04 05 99	
706	The last time you paid with money or gifts for anal sex with a man, was a condom used?	No Yes No answer	00 01 99	If Yes, skip to 708
707	If a condom was not used the last time you paid money or gifts for anal sex with a man, what were the reasons for not using a condom? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Not easily available Expensive Was under the influence of alcohol/drug Sex partner doesn't like to use it I don't like to use it Both don't like to use it Don't think it is necessary Don't think of it/forgot I know this partner well Other(Specify)_____ No answer	01 02 03 04 05 06 07 08 09 77 99	
708	In the last 12 months, have you been paid with money or gifts by a man in exchange for anal sex?	No Yes No answer	00 01 99	If no, skip to Block VIII
709	In the last 12 months, how many men paid you with money or gifts in exchange for anal sex?	Number _____ Don't know/remember No answer	 88 99	
710	In the last one month, how many men paid you with money or gifts in exchange for anal sex?	Number _____ Don't know/remember No answer	 88 99	If 0, skip to 713

711	In the last one month, how many times have you been paid money or gifts by a man in exchange for anal sex?	Number of times_____ Don't remember/know No answer	 88 99	
712	In the last one month, with what frequency were condoms used during anal sex with men who paid you money or gifts in exchange for sex? READ THE FIRST FIVE RESPONSES AND PARTICIPANT TO SELECT ONE BEST ANSWER.	Always Most times About half the times Occasionally Never No answer	01 02 03 04 05 99	
713	Was a condom used the last time you had anal sex with a man who paid you with money or gifts in exchange for anal sex?	No Yes No answer	00 01 99	If Yes, skip to block VIII
714	What was the reason for not using a condom at last anal sex with a man who paid you money or gifts in exchange for anal sex? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Not easily available Expensive Was under the influence of alcohol/drug Sex partner doesn't like to use it I don't like to use it Both don't like to use it Don't think it is necessary Don't think of it/forgot I know this partner well Other(Specify)_____ No answer	01 02 03 04 05 06 07 08 09 77 99	

BLOCK XIII.
SEXUAL HISTORY WITH FEMALE PARTNERS
Now I would like to ask you about female partners with whom you have insertive vaginal or anal sex.

#	Question	Answer	Codes	Skip to
801	In the last 12 months, have you had insertive vaginal or anal sex with a female partner?	No Yes No answer	00 01 99	If No, skip to 806
802	In the last 12 months, how many female partners have you had?	Number _____ Don't know/remember No answer	 88 99	
803	In the last one month, have you had sex with female partners?	No Yes No answer	00 01 99	If No, skip to 806

804	In the last one month, how many times have you had sex with female partners?	Number _____ Don't know/remember No answer	 88 99	
805	In the last one month, with what frequency were condoms used during sex with female partners? READ THE FIRST FIVE RESPONSES AND PARTICIPANT TO SELECT ONE BEST ANSWER.	Always Most times About half the times Occasionally Never No answer	01 02 03 04 05 99	
806	The last time you had sex with a female partner, did you use a condom?	No Yes No answer	00 01 99	If Yes, skip to block IX
807	If a condom was not used at last vaginal sex with a regular female partner, why not? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Not easily available Expensive Using other contraception Was under the influence of alcohol/drug Sex partner doesn't like to use it I don't like to use it Both don't like to use it Don't think it is necessary Don't think of it/forgot I know this partner well Other(Specify)_____ No answer	01 02 03 04 05 06 07 08 09 10 77 99	

BLOCK IX. CONDOMS AND LUBRICANTS

Now I would like to ask you about condoms and lubricants.

#	Question	Answers	Codes	Skip to
901	Do you know of any place or person from which you can obtain condoms?	No Yes No answer	00 01 99	If No, skip to 903
902	Please tell me all the places you know where you can get condoms? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Pharmacy Store/ Shop Drop-In Center Betel shop Hospital/ clinic/STD team Karaoke/Restaurant Inn/ Hotel/ Motel/Guesthouse Outreach worker/Health educator/BHS	01 02 03 04 05 06 07 08 09	

		Peer/Friend Other (Specify)_____ No answer	77 99	
903	In the last 12 months, how do you get condoms most of the time? READ LIST PARTICIPANT TO SELECT ONE BEST ANSWER.	Sex partner provides/brings condoms I get them for free from NGO I buy them myself No answer	01 02 03 99	
904	How often can you get a condom every time you need/want one? READ THE FIRST FIVE RESPONSES. PARTICIPANT TO SELECT ONE BEST ANSWER.	Always Most times About half the times Occasionally Never No answer	01 02 03 04 05 99	
905	Have you ever heard of a female condom?	No Yes No answer	00 01 99	If no, skip to 908
906	Have you ever used a female condom for anal sex?	No Yes No answer	00 01 99	If no, skip to 908
907	Why have you used this kind of condom for anal sex? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Protection from HIV Protection from other infections Didn't have male condom Partner won't use male condom Reduces mess Other: _____ No answer	01 02 03 04 05 77 99	
908	Do you usually carry any condoms with you?	No Yes No answer	00 01 99	If Yes, skip to 910
909	Why don't you usually carry condoms with you? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST PROBE "ANYTHING ELSE?"	I don't use condoms Easily Available Partners bring their own condoms Don't think about it/forget Afraid of being caught carrying condoms Others _____ No answer	01 02 03 04 05 77 99	

910	Have you ever had the experience of condom breaking while having sex?	No Yes No answer	00 01 99	If No, skip to 914
911	For what reason(s) do you think the condom broke? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Poor quality of condom Expired condom Condom wrong size User error No lubricant Wrong type of lubricant Violence Used two condoms at same time Sex lasted too long Large/disfigured penis Others _____ Don't know/remember No answer	01 02 03 04 05 06 07 08 09 10 77 88 99	
912	In the last month, have you had the experience of a condom breaking while having sex?	No Yes No answer	00 01 99	
913	The last time you had sex; did you have the experience of the condom breaking?	No Yes No answer	00 01 99	
914	Have you ever used lubricants while having anal sex?	No Yes No answer	00 01 99	If No, skip to block X
915	How often have you used lubricants in the last one month? READ THE FIRST FIVE RESPONSES AND PARTICIPANT TO SELECT ONE BEST ANSWER.	Always Most of the time About half the time Occasionally Never No answer	01 02 03 04 05 99	
916	Please tell me all the places you know where you can get lubricants? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Pharmacy Store/ Shop Drop-In Center Betel shop Hospital/ clinic/STD team Karaoke/Restaurant Inn/ Hotel/ Motel/Guesthouse Outreach worker/Health educator/BHS Peer/Friend Other (Specify)_____ No answer	01 02 03 04 05 06 07 08 09 77 99	

917	Did you use lubricant the last time you had sex with another male?	No Yes No answer	00 01 99	If No, Skip to block X
918	Did you use lubricant alone without condom the last time you had sex with another male?	No Yes No answer	00 01 99	
919	What kind of lubricant did you use at your last sex with another male? DO NOT READ RESPONSES MULTIPLE RESPONSES POSSIBLE	Glycerin Saliva Gel (eg.Ahphaw gel) Body lotion/cosmetic oils Cooking oil/butter Other_____ No answer	01 02 03 04 05 77 99	

BLOCK X. SYMPTOMS OF STIs **Now I would like to ask you about symptoms of sexually transmitted infections**				
#	Question	Answers	Codes	Skip to
1001	Have you ever heard of diseases that can be transmitted through sexual intercourse?	No Yes No answer	00 01 99	Skip to 1003
1002	What are signs or symptoms of sexually transmitted infections in men? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST PROMPT "ANY OTHER?"	Discharge from penis Discharge from rectum Burning/ painful urination Pain during sex Genital/ anal ulcer Swelling in groin No symptoms Other (Specify) _____ Don't know/remember No answer	01 02 03 04 05 06 07 77 88 99	
1003	In the last 12 months, did you have discharge from your urethra?	No Yes No answer	00 01 99	
1004	In the last 12 months, did you have discharge from your rectum?	No Yes No answer	00 01 99	
1005	In the last 12 months, did you have ulcer/wart on your penis or around your anal area?	No Yes No answer	00 01 99	

1006	In the last 12 months, you had a discharge or ulcer in your genital area, did you seek treatment? (To ask only those, who answer 'Yes' in any of questions number 1003, 1004 and 1005)	No Yes No answer	00 01 99	If No, Skip to block XI
1007	If you received medical treatment, where/how did you go for treatment? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Self medication Traditional medicine Treatment at AIDS/STD Team Private hospital/clinic/GP Public hospital/clinic Clinics at NGOs Other _____ No answer	01 02 03 04 05 06 77 99	
1008	How long did you have this symptom before seeking treatment?	Days _____ Months _____ Don't now/remember No answer	 88 99	

BLOCK XI.
ALCOHOL AND DRUG USE
Now I would like to ask you about alcohol and use of drugs that are not medication. These questions may be sensitive but please remember that we are not recording your name or other identifying information.

#	Question	Answer	Codes	Skip to
1101	Have you ever had any alcohol drink?	No Yes No answer	00 01 99	If No/No answer, skip to 1106
1102	In the last 12 months, have you had any alcoholic drink alcohol (liquor, beer, toddy, brew)?	No Yes	00 01	If No, skip to 1106
1103	How often have you had drinks containing alcohol?	Less than once a month 1-5 times a month 5-10 times a month Nearly daily Daily No answer	01 02 03 04 05 99	
1104	In the last one year, did you have the experience of get drunk and had sex?	No Yes No answer	00 01 99	If No, skip to 1106
1105	In the last one year, how often did you use condoms when you were drunk during sex?	Always Most times About half the times Occasionally	01 02 03 04	

	READ THE FIRST FIVE RESPONSES. PARTICIPANT TO SELECT ONE BEST ANSWER.	Never No answer	05 99	
1106	Have you ever use drugs for non-medical purposes in your lifetime?	No Yes No answer	00 01 99	If No, skip to block XII
1107	How did you use drugs for non-medical purposes?	Injecting method Non-injecting methods Both	01 02 03	If "02", skip to 1110
1108	In the last 12 months, have you injected drugs for non-medical purposes?	No Yes No answer	00 01 99	If No, skip to 1110
1109	Have you shared needle during those last 12 months?	No Yes No answer	00 01 99	
1110	During the last 12 months, do you have sex under the influence of drugs?	No Yes No answer	00 01 99	If No, skip to block VII
1111	During the last 12 months, when you were under the influence of drugs and had sex, how often do you use condoms? READ THE FIRST FIVE RESPONSES. PARTICIPANT TO SELECT ONE BEST ANSWER.	Always Most times About half the times Occasionally Never No answer	01 02 03 04 05 99	

BLOCK XII. KNOWLEDGE OF HIV/AIDS **I will ask you about your knowledge of HIV**				
#	Question	Answers	Codes	Skip to
1201	Have you ever received information on HIV or AIDS?	No Yes No answer	00 01 99	If No, skip to 1203
1202	From where/whom did you receive most information about HIV? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Health providers (public/private) Teacher/school official Radio/ TV/ Magazine IEC materials (pamphlets, posters) Social media/Internet Relatives/Friends Peers Others (Specify): _____ No answer	01 02 03 04 05 06 07 77 99	

1203	Can a person get HIV having sex with only one uninfected partner who has no other partners?	No Yes No answer	00 01 99	
1204	Can a person get HIV from mosquito bites?	No Yes No answer	00 01 99	
1205	Can a person reduce the risk of getting HIV by using a condom in the right way every time they have sex?	No Yes No answer	00 01 99	
1206	Can a person get HIV by sharing food with someone who is infected?	No Yes No answer	00 01 99	
1207	Can a person get HIV by injecting with a needle that was already used by someone else?	No Yes No answer	00 01 99	
1208	Can a healthy-looking person have HIV?	No Yes No answer	00 01 99	
1209	Have you heard that there is a treatment for HIV/AIDS?	No Yes No answer	00 01 99	
1210	Do you know where to go if you wish to receive an HIV test?	No Yes No answer	00 01 99	If No, skip to 1212
1211	Where can you have an HIV test? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	AIDS/STD Team Private hospital/clinic/GP Public hospital/clinic Clinics at NGOs Other _____ No answer	01 02 03 04 77 99	
1212	Have you ever been tested for HIV?	No Yes No answer	00 01 99	If Yes, skip to 1214
1213	If no, what are reasons for not getting tested? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Feel healthy, not sick Afraid of learning HIV status Fear of stigma and discrimination Don't think I have HIV I trust my partner No money to test Do not know a place to test Others (specify)_____ No answer	01 02 03 04 05 06 07 77 99	After answering this skip to 1223

1214	When was the last time you were tested for HIV?	Within the last 6 months 6-12 months ago More than 12 months ago Don't know/remember No answer	00 01 02 88 99	
1215	The last time you went for an HIV test, why did you get the test done? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	I wanted to know my HIV status Urged by spouse/ partner Urged by friend Recommended by doctor For regular blood testing Forced by employer Other (specify):_____ No answer	01 02 03 04 05 06 77 99	
1216	Where did you go for HIV testing last time when you had an HIV test?	AIDS/STD Team Private hospital/clinic/GP Public hospital/clinic Clinics at NGOs Other (specify):_____ No answer	01 02 03 04 77 99	
1217	Did you get the results of that last HIV test?	No Yes No answer	00 01 99	If No, skip to 1223
1218	The last time you had an HIV test did you share your test result with others?	No Yes No answer	00 01 99	If No, skip to 1220
1219	If yes, with whom did you share your test result? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Spouse/regular partner Friend Family member Health staff Colleague Employer Peers Other (specify): _____ No answer	01 02 03 04 05 06 07 77 99	
1220	What was the result of your last HIV test? (Please remember that everything you say is confidential. You can skip this if you don't want to answer. But it would be very helpful to this survey if you answer correctly.)	Negative Positive Indeterminate No answer	00 01 02 99	If Negative/Indeterminate, skip to 1223

1221	If positive, are you receiving any kind of HIV treatment/care and support?	No Yes No answer	00 01 99	If No, skip to 1223
1222	If positive, where are you receiving HIV care and support?	AIDS/STD Team Private hospital/clinic/GP Public hospital/clinic Clinics at NGOs Other (Specify): _____ No answer	01 02 03 04 77 99	
1223	Has your last regular partner ever tested for HIV?	No Yes Have no regular partner/spouse Don't know No answer	00 01 02 88 99	If No/No regular partner /Don't know, skip to block XIII
1224	Do you know the HIV status of your last partner?	Yes, he said he is negative Yes, he said he is positive Have not discussed this with my partner Don't know No answer	00 01 02 88 99	

BLOCK XIII. EXPOSURE TO STIGMA, DISCRIMINATION, & VIOLENCE

I would like to ask you about your experiences with the community and police. These questions may be sensitive and you do not have to answer them or can ask questions about them if they make you uncomfortable.

#	Question	Answers	Codes	Skip to
1301	In the last 12 months, how often have you had to pretend that you are not a thang-e/apwint/apone in order to be accepted?	Never Sometimes Often Always No answer	00 01 02 03 99	
1302	In the last 12 months, how often have you lost a job or career opportunity due to your being thang-e/apwint/apone?	Never Sometimes Often Always No answer	00 01 02 03 99	
1303	In the last 12 months, how often have you been afraid of seeking health care because of being thang-e/apwint/apone?	Never Sometimes Often Always No answer	00 01 02 03 99	

1304	In the last 12 months, how often has your family or relatives rejected you because you are a thang-e/apwint/apone?	Never Sometimes Often Always No answer	00 01 02 03 99	
1305	In the last 12 months, how often have you been hit or beaten up due to being thang-e/apwint/apone?	Never Sometimes Often Always No answer	00 01 02 03 99	
1306	In the last 12 months, how often have you been forced to have sex against your will?	Never Sometimes Often Always No answer	00 01 02 03 99	
1307	In the past 12 months, how often have you been harassed by police or other authorities because you are a thang-e/apwint/apone?	Never Sometimes Often Always No answer	00 01 02 03 99	

BLOCK XIV. EXPOSURE TO INTERVENTION

Now I would like to ask you questions about HIV and prevention services that you might have used in the past few months. This is our last section and you have done very well.

#	Question	Answers	Codes	Skip to
1401	In the past 12 months, have you been given condoms, including condoms distributed by outreach workers?	No Yes No answer	00 01 99	
1402	In the past 12 months, have you been given lubricant, including lubricant distributed by outreach workers?	No Yes No answer	00 01 99	
1403	Did you receive an HIV test from ---------- during January to March 2015 (3 months)?	No Yes No answer	00 01 99	
1404	Did you visit ---------- during January to March 2015 (3 months)?	No Yes No answer	00 01 99	
1405	Did you receive a jade pendent after Thingyan 2015 that was given to you by outreach workers of ----------?	No Yes No answer	00 01 99	

We would like to thank you very much for your time and attentive responses.

Annex 5. Township profiles

Yangon Site Profile

Sample Recruitment

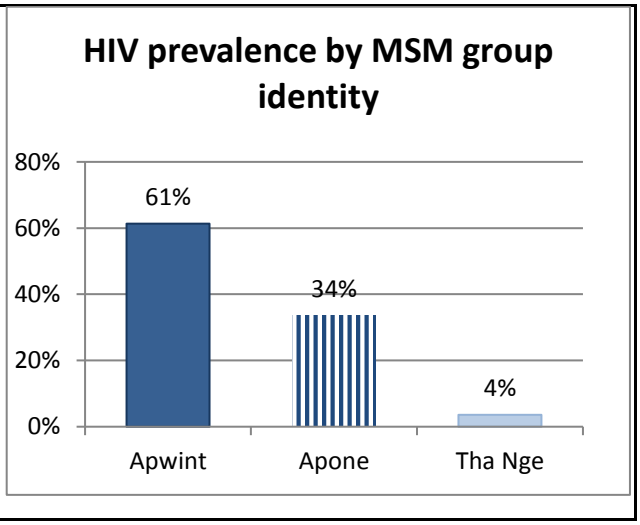
State/ Division	RDS Center	Total Enrolment (including seeds)	# seeds	Non-eligible & refused	Fully Participated (including seeds)
YANGON		405	5	6	399

Basic Characteristics

		Mean	Median				%	95% CI
Age in Years		26	23		**Group Identity**	**Apwint**	31	*(22-39)*
Monthly income (kyats)		164,886	150,000			**Apone**	18	*(11-25)*
		%	**95% CI**			**Tha Nge**	51	*(42-60)*
<25 years old		57	*(49-66)*		**First sexual partner "Male"**		95	*(91-98)*
Highest Education Level completed	No education	6	*(3-10)*		**MSM≤ 1 year**		20	*(13-26)*
	1-4th	17	*(11-23)*		**currently married to a woman**		12	*(7-17)*
	5-8th	35	*(27-43)*		**Lives with**	spouse	10	*(5-14)*
	9-10th	29	*(22-36)*			Male partner	7	*(4-9)*
	Univ/ College	12	*(8-17)*			Parents/ relatives	64	*(56-71)*
Can't read or write (Myanmar Language)		4	*(1-6)*			Alone	20	*(12-27)*

HIV and STIs

	% (95%CI)
Overall HIV Prevalence	27(18-35)
HSS (2014) HIV prevalence	3
HIV prevalence(%) among	
<25 year	≥25 year
14	43
MSM =< 1 year	MSM > 1 year
2	33
Genital discharge or ulcer in the last 12 months	19 (12-26)



Stigma, Discrimination and Violence

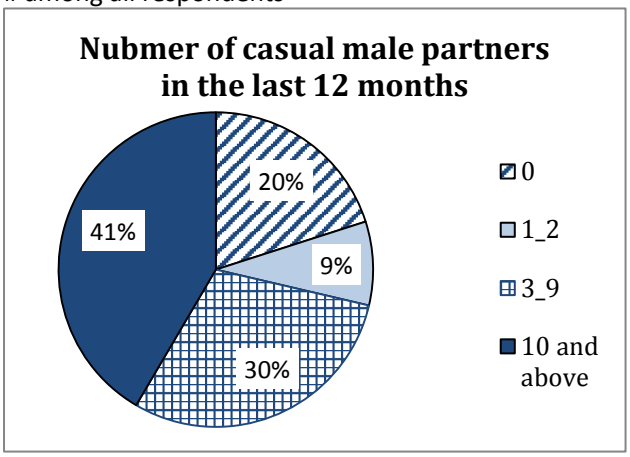
	%	95% CI		%	95% CI
Most close friends know I have sex with men	44	*(36-53)*	**Never hit or beaten for being MSM**	83	*(77-88)*
Most of my family know I have sex with men	10	*(5-15)*	**Never forced to have sex against the will**	80	*(74-85)*

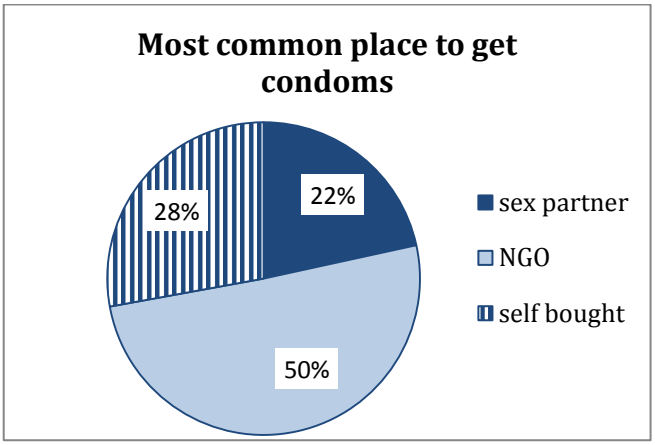
Sexual Risk Behavior

	% (95%CI)	Mean	Median		%	95% CI
# of male anal sex partners in the past 12 months#		22	10	**Always condom use with any partners#**	42	*(34-50)*

# of male anal sex partners in the past one month#		4	2	**Last time condom use with any partners#**	64	*(56-72)*
Had regular male partners(#) and its partners in the past 12 months	26 (21-32)	3	1	**Last time condom use at anal sex with reg partner**	61	*(52-71)*
Had casual male partners(#) and its number in the past 12 months	82 (75-88)	20	10	**Always condom use with casual partners**	41	*(32-49)*
Anal sex with casual partner in the last month	88 (81-94)			**Last time condom use with casual partners**	62	*(53-71)*
Bought sex from a man(#) and its numbers in the past 12 months	8 (4-12)	4	3	**Last time condom use with paid partners**	Can't run	
Sold anal sex to a man(#) and its number in the past 12 months	25 (17-33)	14	8	**Last time condom use with clients**	Can't run	
Had female partners(#) and its number in the 12 month	24 (16-31)	3	1	**Last time condom use with female partners**	Can't run	

among all respondents





Knowledge and Service Utilization

	%	95% CI			%	95% CI
Comprehensive knowledge about HIV prevention	30	*(23-37)*		**GARPR prevention (received condoms in the last 12 months & know a place for testing)**	54	*(49-66)*
Aware of HIV treatment	83	*(77-88)*		**Received lubricants (last 12 mo)**	45	*(35-54)*
% who 'know their status'*	69	*(49-89)*		**Ever tested for HIV**	60	*(52-68)*
% on treatment among those who 'know their status'*	100			**Tested in the last year & received result**	39	*(31-48)*
				Last regular partner ever tested for HIV	15	*(10-20)*

**'know their status'* is defined as testing HIV positive in the IBBS and reporting the last test result was HIV positive

Population Size Estimate

Yangon (YCDC area) Consensus estimate	23,354	**Size as a % of 15+male population**	1.2	**Estimated Adult Male Population**	1,947,305

Mandalay Site Profile

Sample Recruitment

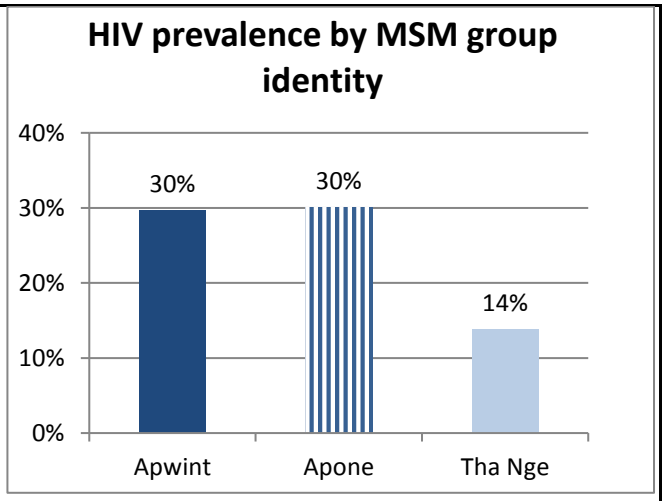
State/ Division	RDS Center	Total Enrolment (including seeds)	# seeds	Non-eligible & refused	Fully Participated (including seeds)
Mandalay		423	6	33	390

Basic Characteristics

		Mean	Median				%	95% CI
Age in Years		26	23		**Group Identity**	**Apwint**	36	*(28-45)*
Monthly income (kyats)		204,661	150,000			**Apone**	16	*(9-24)*
		%	**95% CI**			**Tha Nge**	47	*(38-57)*
<25 years old		58	(49-67)		**First sexual partner "Male"**		84	*(76-91)*
Highest Education Level completed	No education	2	*(0-4)*		**MSM≤ 1 year**		14	*(8-20)*
	1-4th	12	*(6-18)*		**currently married to a woman**		4	*(1-6)*
	5-8th	31	*(23-39)*		**Lives with**	spouse	3	*(1-6)*
	9-10th	43	*(35-52)*			Male partner	8	*(4-12)*
	Univ/ College	11	*(7-15)*			Parents/ relatives	82	*(76-88)*
Can't read or write (Myanmar Language)		0.6	*(0-1.2)*			Alone	7	*(4-10)*

HIV and STIs

	% (95%CI)
Overall HIV Prevalence	22 (14-30)
HSS (2014) HIV prevalence	7
HIV prevalence(%) among	
<25 year	≥25 year
10	38
MSM =< 1 year	MSM > 1 year
24	21
Genital discharge or ulcer in the last 12 months	12(6-17)



Stigma, Discrimination and Violence

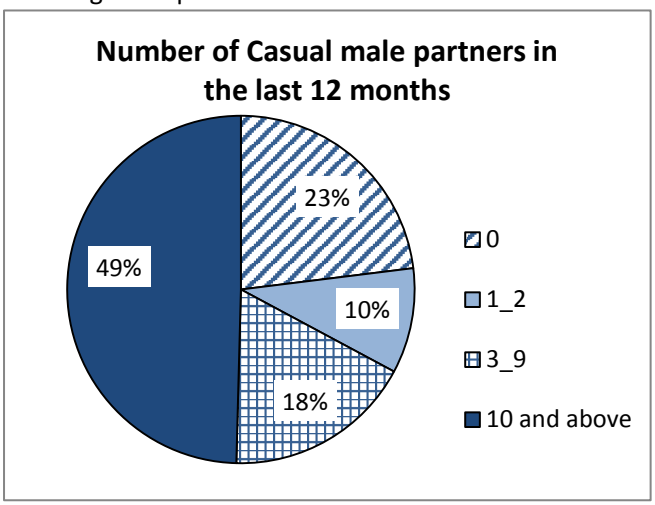
	%	95% CI		%	95% CI
Most close friends know I have sex with men	86	*(80-93)*	**Never hit or beaten for being MSM**	94	*(91-97)*
Most of my family know I have sex with men	32	*(25-40)*	**Never forced to have sex against the will**	93	*(90-96)*

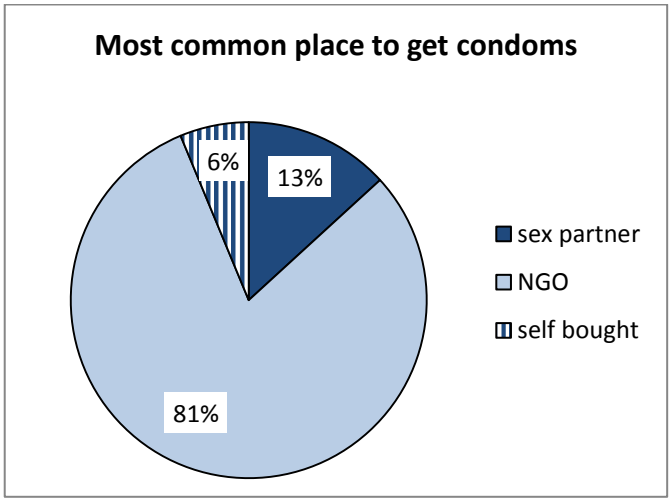
Sexual Risk Behavior

	% (95%CI)	Mean	Median		%	95% CI
# of male anal sex partners in the past 12 months#		29	10	**Always condom use with any partners**	85	*(80-90)*

# of male anal sex partners in the past one month#		5	2	**Last time condom use with any partners**	91	*(87-95)*
Had regular male partners(#) and its partners in the past 12 months	48 (40-56)	2	1	**Last time condom use at anal sex with reg partner**	81	*(72-90)*
Had casual male partners(#) and its number in the past 12 months	77 (69-86)	23	13	**Always condom use with casual partners**	90	*(84-95)*
Anal sex with casual partner in the last month	83 (75-90)			**Last time condom use with casual partners**	95	*(92-98)*
Bought sex from a man(#) and its numbers in the past 12 months	8 (5-11)	6	3	**Last time condom use with paid partners**	97	*(92-102)*
Sold anal sex to a man(#) and its number in the past 12 months	15 (9-21)	16	10	**Last time condom use with clients**	99	*(98-99)*
Had female partners(#) and its number in the 12 month	26 (18-34)	2	2	**Last time condom use with female partners**	Can't run	

among all respondents





Knowledge and Service Utilization

	%	95% CI			%	95% CI
Comprehensive knowledge about HIV prevention	84	*(77-89)*		**GARPR prevention (received condoms in the last 12 months & know a place for testing)**	80	*(73-87)*
Aware of HIV treatment	88	*(83-93)*		**Received lubricants (last 12 mo)**	71	*(63-79)*
% who 'know their status'*	40	*(19-62)*		**Ever tested for HIV**	83	*(75-91)*
% on treatment among those who 'know their status'*	100			**Tested in the last year & received result**	63	*(54-72)*
				Last regular partner ever tested for HIV	33	*(25-41)*

**'know their status'* is defined as testing HIV positive in the IBBS and reporting their last test result was HIV positive

Population Size Estimate

Mandalay (7 townships) Consensus estimate	11,419	**Size as a % of 15+male population**	1.9	**Estimated Adult Male Population**	608,114

Monywa Site Profile

Sample Recruitment

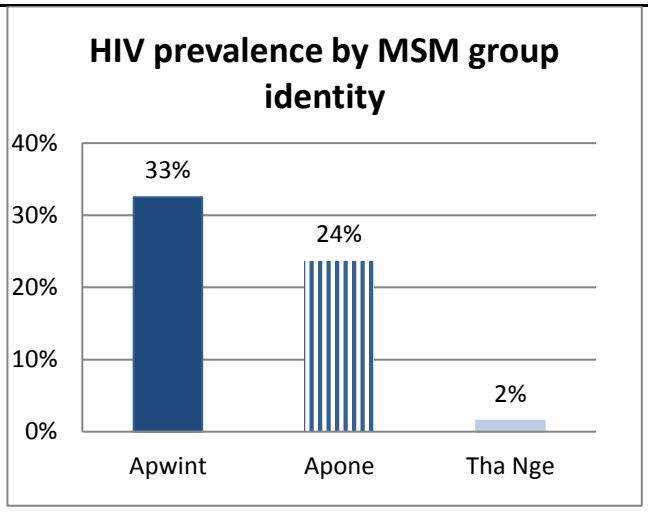
State/ Division	RDS Center	Total Enrolment (including seeds)	# seeds	Non-eligible & refused	Fully Participated (including seeds)
Sagaing	Monywa	383	5	12	371

Basic Characteristics

		Mean	Median				%	95% CI
Age in Years		25	23		**Group Identity**	**Apwint**	10	*(7-13)*
Monthly income (kyats)		143,423	120,000			**Apone**	9	*(6-12)*
		%	**95% CI**			**Tha Nge**	81	*(77-86)*
<25 years old		57	(51-63)		**First sexual partner "Male"**		60	*(55-66)*
Highest Education Level completed	No education	1	*(0-2)*		**MSM≤ 1 year**		33	*(29-38)*
	1-4th	23	*(19-28)*		**currently married to a woman**		24	*(19-29)*
	5-8th	37	*(32-42)*		**Lives with**	spouse	22	*(17-26)*
	9-10th	31	*(26-35)*			Male partner	2	*(1-4)*
	Univ/ College	8	*(5-10)*			Parents/ relatives	69	*(64-74)*
Can't read or write (Myanmar Language)		2	*(1-3)*			Alone	7	*(5-9)*

HIV and STIs

	% (95%CI)
Overall HIV Prevalence	6(4-9)
HSS (2014) HIV prevalence	2
HIV prevalence(%) among	
<25 year	≥25 year
4	10
MSM =< 1 year	MSM > 1 year
1	9
Genital discharge or ulcer in the last 12 months	14 (10-17)



Stigma, Discrimination and Violence

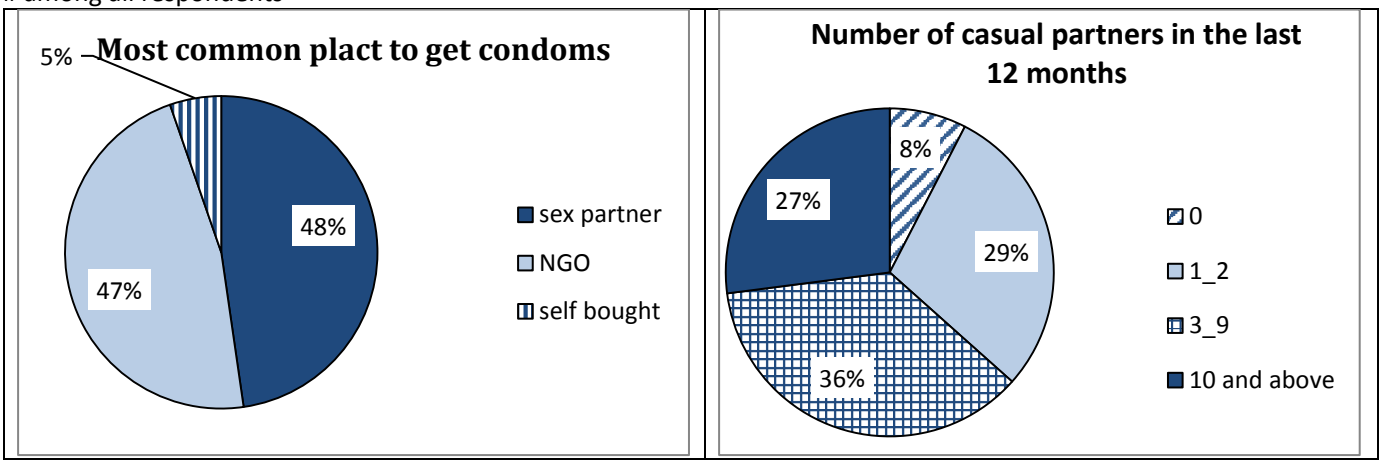
	%	95% CI		%	95% CI
Most close friends know I have sex with men	35	*(29-40)*	**Never hit or beaten for being MSM**	92	*(89-95)*
Most of my family know I have sex with men	4	*(2-6)*	**Never forced to have sex against the will**	79	*(75-83)*

Sexual Risk Behavior

	% (95%CI)	Mean	Median		%	95% CI
# of male anal sex partners in the past 12 months#		23	5	**Always condom use with any partners#**	63	*(56-70)*

# of male anal sex partners in the past one month#		3	1	**Last time condom use with any partners#**	88	*(85-91)*
Had regular male partners(#) and its partners in the past 12 months	23 (18-27)	5	1	**Last time condom use at anal sex with reg partner**	72	*(64-80)*
Had casual male partners(#) and its number in the past 12 months	92 (90-95)	22	4	**Always condom use with casual partners**	65	*(57-74)*
Anal sex with casual partner in the last month	64 (58-69)			**Last time condom use with casual partners**	91	*(88-94)*
Bought sex from a man(#) and its numbers in the past 12 months	2 (1-3)	20	13	**Last time condom use with paid partners**	Can't run	
Sold anal sex to a man(#) and its number in the past 12 months	4 (2-5)	27	11	**Last time condom use with clients**	Can't run	
Had female partners(#) and its number in the 12 month	55 (49-61)	4	2	**Last time condom use with female partners**	Can't run	

among all respondents



Knowledge and Service Utilization

	%	95% CI			%	95% CI
Comprehensive knowledge about HIV prevention	48	*(44-53)*		**GARPR prevention (received condoms in the last 12 months & know a place for testing)**	54	*(48-60)*
Aware of HIV treatment	82	*(78-86)*		**Received lubricants in the last 12 months**	48	*(42-54)*
% who 'know their status'*	82	*(67-97)*		**Ever tested for HIV**	49	*(43-55)*
% on treatment among those who 'know their status'*	85	*(72-98)*		**Tested in the last year & received result**	36	*(31-42)*
				Last regular partner ever tested for HIV	24	*(20-28)*

**'know their status'* is defined as testing HIV positive in the IBBS and reporting their last test result was HIV positive.

Population Size Estimate

Monywa Consensus estimate	1,860	**Size as a % of 15+male population**	1.6	**Estimated Adult Male Population**	119,368

Pathein Site Profile

Sample Recruitment

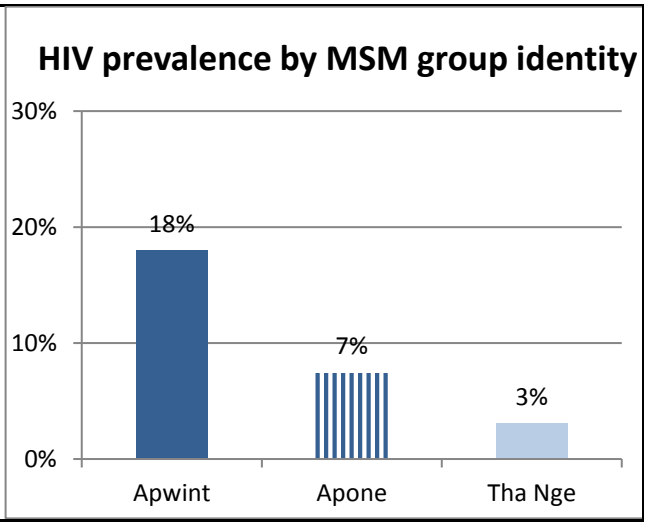
State/ Division	RDS Center	Total Enrolment (including seeds)	# seeds	Non-eligible & refused	Fully Participated (including seeds)
Ayeyarwady	Pathein	456	7	51	405

Basic Characteristics

		Mean	Median				%	95% CI
Age in Years		23	22		**Group Identity**	**Apwint**	23	*(17-28)*
Monthly income (kyats)		128,435	120,000			**Apone**	5	*(3-7)*
		%	**95% CI**			**Tha Nge**	73	*(66-79)*
<25 years old		70	(64-76)		**First sexual partner "Male"**		70	*(63-76)*
Highest Education Level completed	No education	1	*(0-2)*		**MSM≤ 1 year**		25	*(18-32)*
	1-4th	14	*(10-18)*		**currently married to a woman**		20	*(14-26)*
	5-8th	31	*(25-37)*		**Lives with**	spouse	19	*(14-25)*
	9-10th	46	*(39-53)*			Male partner	7	*(40-10)*
	Univ/ College	8	*(5-11)*			Parents/ relatives	69	*(62-75)*
Can't read or write (Myanmar Language)		1	*(0-2)*			Alone	5	*(2-8)*

HIV and STIs

	% (95%CI)
Overall HIV Prevalence	7(4-9)
HSS (2014) HIV prevalence	15
HIV prevalence(%) among	
<25 year	≥25 year
5	10
MSM =< 1 year	MSM > 1 year
0	9
Genital discharge or ulcer in the last 12 months	8(5-11)



Stigma, Discrimination and Violence

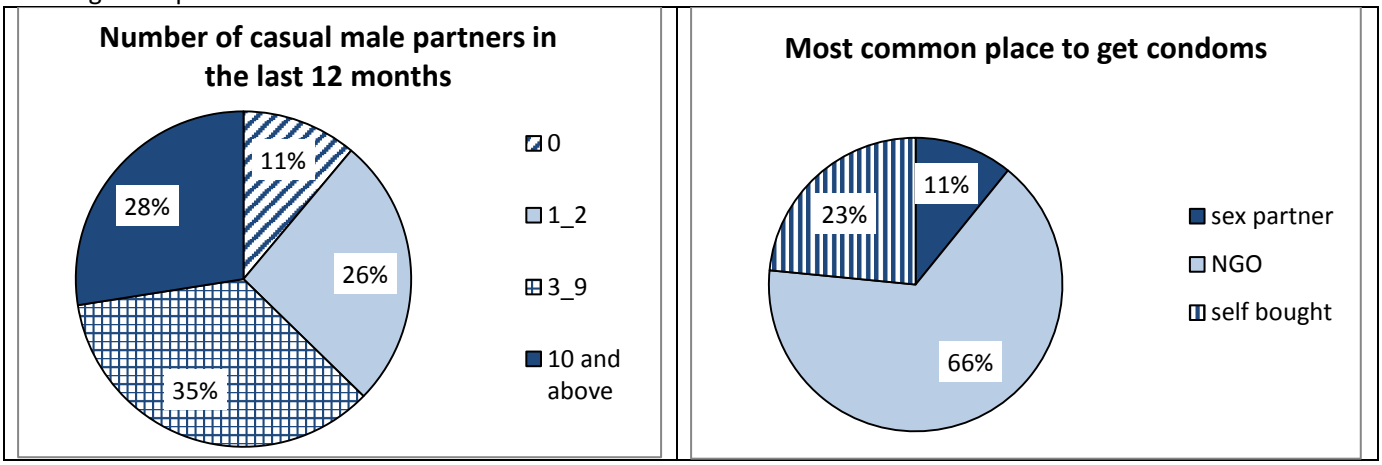
	%	95% CI		%	95% CI
Most close friends know I have sex with men	28	*(22-34)*	**Never hit or beaten for being MSM**	85	*(80-89)*
Most of my family know I have sex with men	5	*(3-7)*	**Never forced to have sex against the will**	82	*(77-87)*

Sexual Risk Behavior

	%(95%CI)	Mean	Median
# of male anal sex partners in the past 12 months#		11	5
# of male anal sex partners in the past one month#		2	1
Had regular male partners(#) and its partners in the past 12 months	30 (24-36)	2	1
Had casual male partners(#) and its number in the past 12 months	89 (85-93)	11	5
Anal sex with casual partner in the last month	55 (48-63)		
Bought sex from a man(#) and its numbers in the past 12 months	2 (1-4)	3	3
Sold anal sex to a man(#) and its number in the past 12 months	3 (2-5)	12	5
Had female partners(#) and its number in the 12 month	61 (54-67)	3	1

	%	95% CI
Always condom use with any partners#	67	*(60-74)*
Last time condom use with any partners#	79	*(74-84)*
Last time condom use at anal sex with reg partner	73	*(64-83)*
Always condom use with casual partners	72	*(65-79)*
Last time condom use with casual partners	81	*(74-87)*
Last time condom use with paid partners	64	*(20-105)*
Last time condom use with clients	91	*(87-95)*
Last time condom use with female partners	37	*(28-47)*

among all respondents



Knowledge and Service Utilization

	%	95% CI
Comprehensive knowledge about HIV prevention	59	*(52-66)*
Aware of HIV treatment	77	*(71-82)*
% who 'know their status'*	75	*(59-90)*
% on treatment among those who 'know their status'*	78	*(38-121)*

	%	95% CI
GARPR prevention (received condoms in the last 12 months & know a place for testing)	76	*(70-82)*
Received lubricants (last 12 mo)	44	*(37-52)*
Ever tested for HIV	80	*(75-85)*
Tested in the last year & received result	60	*(53-67)*
Last regular partner ever tested for HIV	22	*(16-28)*

**'know their status'* is defined as testing HIV positive in the IBBS and reporting their last test result was HIV positive.

Population Size Estimate

Pathein Consensus estimate	2,475	**Size as a % of 15+male population**	1.9	**Estimated Adult Male Population**	128,309

Pyay Site Profile

Sample Recruitment

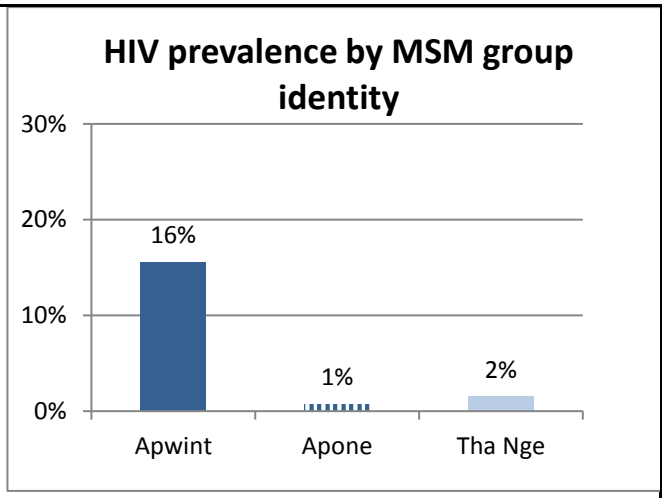
State/ Division	RDS Center	Total Enrolment	# seeds	Non-eligible & refused	Fully Participated
Bago	Pyay	489	7	75	414

Basic Characteristics

		Mean	Median				%	95% CI
Age in Years		26	23		**Group Identity**	**Apwint**	36	*(30-42)*
Monthly income (kyats)		119,371	100,000			**Apone**	20	*(17-24)*
		%	**95% CI**			**Tha Nge**	43	*(37-50)*
<25 years old		56	(51-62)		**First sexual partner "Male"**		88	*(84-92)*
Highest Education Level completed	No education	1	*(1-2)*		**MSM≤ 1 year**		11	*(6-15)*
	1-4th	13	*(9-17)*		**currently married to a woman**		11	*(7-15)*
	5-8th	36	*(31-41)*		**Lives with**	spouse	9	*(6-12)*
	9-10th	38	*(33-44)*			Male partner	7	*(2-11)*
	Univ/ College	11	*(8-15)*			Parents/ relatives	73	*(68-78)*
Can't read or write (Myanmar Language)		2	*(1-4)*			Alone	11	*(8-15)*

HIV and STIs

	% (95%CI)
Overall HIV Prevalence	6
HSS (2014) HIV prevalence	
HIV prevalence(%) among	
<25 year	≥25 year
3	11
MSM =< 1 year	MSM > 1 year
0	7
Genital discharge or ulcer in the last 12 months	6(4-8)



Stigma, Discrimination and Violence

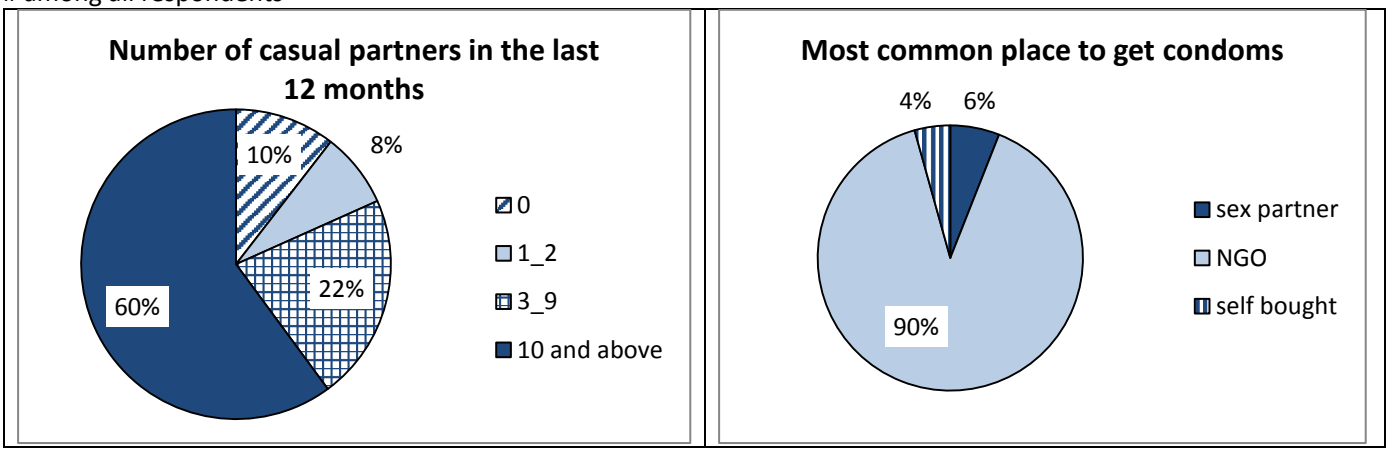
	%	95% CI		%	95% CI
Most close friends know I have sex with men	68	*(62-74)*	**Never hit or beaten for being MSM**	80	*(76-85)*
Most of my family know I have sex with men	13	*(9-18)*	**Never forced to have sex against the will**	56	*(50-62)*

Sexual Risk Behavior

	% (95%CI)	Mean	Median		%	95% CI
# of male anal sex partners in the past 12 months#		23	15	**Always condom use with any partners#**	45	*(39-50)*

# of male anal sex partners in the past one month#		3	2	**Last time condom use with any partners#**	69	*(64-75)*
Had regular male partners(#) and its partners in the past 12 months	32 (26-38)	2	1	**Last time condom use at anal sex with reg partner**	57	*(41-72)*
Had casual male partners(#) and its number in the past 12 months	89 (85-94)	23	15	**Always condom use with casual partners**	51	*(45-57)*
Anal sex with casual partner in the last month	91 (86-95)			**Last time condom use with casual partners**	78	*(73-82)*
Bought sex from a man(#) and its numbers in the past 12 months	9 (7-12)	6	4	**Last time condom use with paid partners**	88	*(80-95)*
Sold anal sex to a man(#) and its number in the past 12 months	11 (7-15)	11	4	**Last time condom use with clients**	55	*(33-73)*
Had female partners(#) and its number in the 12 month	22 (17-27)	3	1	**Last time condom use with female partners**	26	*(13-38)*

among all respondents



Knowledge and Service Utilization

	%	95% CI			%	95% CI
Comprehensive knowledge about HIV prevention	82	*(77-86)*		**GARPR prevention (received condoms in the last 12 months & know a place for testing)**	93	*(89-97)*
Aware of HIV treatment	67	*(62-72)*		**Received lubricants (last 12 mo)**	81	*(76-86)*
% who 'know their status'*	88	*(76-100)*		**Ever tested for HIV**	77	*(73-81)*
% on treatment among those who 'know their status'*	81	*(61-99)*		**Tested in the last year & received result**	55	*(50-61)*
				Last regular partner ever tested for HIV	18	*(12-24)*

**'know their status'* is defined as testing HIV positive in the IBBS and reporting their last test result was HIV positive.

Population Size Estimate

Pyay Consensus estimate	1,375	**Size as a % of 15+male population**	1.7	**Estimated Adult Male Population**	83,530

Annex 6. Detailed tables of survey variables

Contents

A. GENERAL CHARACTERISTICS

Table A1. Age

	YGN	MDY	MYA	PTN	PYY	Variable name
Age <25 years old	57%	58%	57%	70%	56%	**agelt25**
95% CI	*(49-66)*	*(49-67)*	*(51-63)*	*(64-76)*	*(51-62)*	
Age - Mean	26	26	25	23	26	**v201**
Age - Median	23	23	23	22	23	
25th -75th %tile	*(19-30)*	*(20-30)*	*(19-29)*	*(19-25)*	*(19-29)*	
<20	29%	24%	26%	27%	30%	**agecat**
20-24	28%	34%	30%	43%	27%	
25-29	16%	17%	22%	17%	20%	
30-34	8%	11%	7%	7%	10%	
35+	19%	14%	14%	5%	14%	
Denominator (all)	399	390	371	405	414	

Table A2. Lived in current township one year or less

	YGN	MDY	MYA	PTN	PYY	Variable name
Lived in current township ≤1 yr	10%	0.1%	4%	1%	0%	**reslt1yr**
95% CI	*(4-15)*	*(0-0.3)*	*(2-5)*	*(0-2)*		
Denominator(all)	399	390	371	405	414	

Table A3. Reason of residence move (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
For work	55%	71%	36%	61%	34%	**v206a**
95% CI	*(43-67)*	*(62-79)*	*(24-49)*	*(32-89)*	*(6-62)*	
For education/studies	0.7%	0%	4%	5%	18%	**206b**
	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*(0-1)*		*(2-6)*	*(0-11)*	*(11-25)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
For health reason	0.7%	0%	0.0%	0%	0%	206c
95% CI	*(0-2)*					
Family moved	37%	40%	57%	44%	43%	v206d
95% CI	*(26-49)*	*(23-57)*	*(46-68)*	*(27-61)*	*(14-72)*	
Moved with partner	4%	0%	3%	0%	27%	v206e
95% CI	*(1-7)*		*(1-6)*		*(2-52)*	
Separated from family due to disaster/conflict/ family conflict	3%	0%	4%	0%	0%	v206f
95% CI	*(1-7)*		*(3-4)*			
Stigma and discrimination	0.6%	0%	0%	0%	0%	v206g
95% CI	*(0-1)*					
Denominator (respondents who moved from somewhere else)	179	27	108	26	32	

Table A4. Literacy in Myanmar Language

cannot read or write	4%	0.6%	2%	1%	2%	v207
95% CI	*(1-6)*	*(0-1.2)*	*(1-3)*	*(0-2)*	*(1-4)*	
can read only	3%	0.2%	2%	0.3%	2%	
95% CI	*(1-6)*	*(0-0.3)*	*(1-3)*	*(0-1)*	*(0-3)*	
can write only	2%	0%	1%	0.8%	1%	
95% CI	*(0-4)*		*(0-2)*	*(0-2)*	*(1-2)*	
can read and write	91%	99%	95%	98%	95%	
95% CI	*(87-94)*	*(99-100)*	*(94-97)*	*(96-99)*	*(93-97)*	
Denominator(all)	398	390	371	405	414	

Table A5. Ever been to school

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever been to school	94%	98%	99%	99%	99%	**v208**
95% CI	*(90-97)*	*(96-100)*	*(98-100)*	*(98-100)*	*(98-99)*	
Denominator(all)	399	390	371	405	414	

Table A6. Current educational status

Currently a student	3%	2%	4%	5%	10%	**v209**
95% CI	*(1-5)*	*(1-3)*	*(2-6)*	*(3-7)*	*(7-13)*	
Denominator(respondents who had ever been to school)	380	382	367	398	407	

Table A7. Highest education completed

No education	6%	2%	1%	1%	1%	**educall**
95% CI	*(3-10)*	*(0-4)*	*(0-2)*	*(0-2)*	*(1-2)*	
1-4th standard	17%	12%	23%	14%	13%	
95% CI	*(11-23)*	*(6-18)*	*(19-28)*	*(10-18)*	*(9-17)*	
5-8th standard	35%	31%	37%	31%	36%	
95% CI	*(27-43)*	*(23-39)*	*(32-42)*	*(25-37)*	*(31-41)*	
9-10th standard	29%	43%	31%	46%	38%	
95% CI	*(22-36)*	*(35-52)*	*(26-35)*	*(39-53)*	*(33-44)*	
University/college	12%	11%	8%	8%	11%	
95% CI	*(8-17)*	*(7-15)*	*(5-10)*	*(5-11)*	*(8-15)*	
Denominator(all)	399	390	371	405	414	

Table A8. Sources of income in the last 12 months (multiple responses allowed)

Salaried(public/private)	5%	19%	11%	11%	15%	**v211a**
95% CI	*(3-8)*	*(14-24)*	*(8-14)*	*(6-16)*	*(10-20)*	
Artist	0.2%	1%	1%	0.1%	1%	**v211b**
95% CI	*((-0.1)-0.4)*	*((-0.1)-2)*	*(0-1)*	*(0-0.1)*	*(0-2)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Sex worker	8%	1%	0%	0%	2%	v211c
95% CI	*(3-14)*	*(0-3)*			*(0-5)*	
Fashion designer	1%	1%	1%	0%	1%	v211d
95% CI	*(0-2)*	*(0-1)*	*(0-1)*		*(0-2)*	
Decorator/Interior Designer/ Florist	2%	0%	1%	0%	1%	v211e
95% CI	*(0-5)*		*(0-1)*		*(0-2)*	
Farming/Agriculture	0.1%	0%	9%	0%	1%	v211f
95% CI	*((-0.1)-0.3)*		*(5-14)*		*(0-1)*	
Manual/unskilled laborer	36%	37%	55%	55%	32%	v211g
95% CI	*(29-43)*	*(27-47)*	*(49-60)*	*(48-62)*	*(26-37)*	
Driver/transport worker	10%	3%	7%	14%	3%	v211h
95% CI	*(6-15)*	*(1-5)*	*(5-10)*	*(9-19)*	*(2-4)*	
Trade/business/shop	4%	16%	17%	4%	12%	v211i
95% CI	*(1-7)*	*(10-23)*	*(13-21)*	*(1-7)*	*(9-15)*	
Beauty salon	10%	23%	6%	4%	20%	v211j
95% CI	*(5-15)*	*(16-30)*	*(4-8)*	*(2-6)*	*(14-25)*	
Natgadaw	7%	1%	2%	11%	9%	v211k
95% CI	*(2-12)*	*(0-2)*	*(1-3)*	*(7-15)*	*(6-12)*	
Hospitality Industry (Hotel/restaurant)	2%	0%	0.4%	0.2%	0%	v211l
95% CI	*(0-3)*		*((-0.1)-1)*	*((-0.2)-1)*		
Unemployed/dependent	15%	2%	9%	6%	16%	v211m
95% CI	*(9-20)*	*(1-4)*	*(7-12)*	*(3-8)*	*(13-20)*	
Denominator (all)	399	390	371	405	414	

Table A9. Main source of income in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Salaried	7%	19%	10%	10%	11%	**v212recod**
95% CI	*(4-10)*	*(13-24)*	*(7-13)*	*(6-15)*	*(7-16)*	
Artistic work	13%	24%	5%	4%	20%	
95% CI	*(7-19)*	*(17-31)*	*(3-7)*	*(1-6)*	*(14-25)*	
Manual work	36%	35%	57%	53%	32%	
95% CI	*(28-44)*	*(25-45)*	*(51-62)*	*(46-60)*	*(26-37)*	
Natgadaw	7%	1%	1%	11%	8%	
95% CI	*(2-12)*	*(0-1)*	*(0-1)*	*(7-15)*	*(5-10)*	
Unemployment/Dependent	15%	2%	9%	6%	17%	
95% CI	*(9-20)*	*(1-4)*	*(6-12)*	*(3-9)*	*(13-20)*	
Others	23%	20%	18%	17%	13%	
95% CI	*(16-30)*	*(13-28)*	*(14-22)*	*(11-22)*	*(10-16)*	
Denominator(all)	399	390	371	405	414	

Table A10. Monthly income (kyats)

Monthly income - Mean	164,886	204,661	143,423	128,435	119,371	**v213**
Monthly income - Median	150,000	150,000	120,000	120,000	100,000	
25th -75th %tile	*(90,000-210,000)*	*(120,000-250,000)*	*(90,000-170,000)*	*(90,000-150,000)*	*(80,000-150,000)*	
income less than overall median value 120000kyats	33%	25%	40%	47%	59%	**incomlt1.2lakh**
	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*(25-41)*	*(18-31)*	*(35-46)*	*(40-53)*	*(54-65)*	
Denominator(all)	399	390	371	405	414	

Table A11. Current marital status

Married to a woman	12%	4%	24%	20%	11%	**v214**
95% CI	*(7-17)*	*(1-6)*	*(19-29)*	*(14-26)*	*(7-15)*	
	YGN	MDY	MYA	PTN	PYY	Variable name

Ever married to a woman	1%	1%	4%	4%	4%	
95% CI	*(0-2)*	*(0-2)*	*(2-6)*	*(2-6)*	*(1-7)*	
Never married to a woman	87%	95%	71%	76%	85%	
95% CI	*(82-92)*	*(92-98)*	*(66-76)*	*(70-82)*	*(81-89)*	
Denominator(all)	399	390	371	404	414	

Table A12. With whom respondent currently lives

live with spouse	10%	3%	22%	19%	9%	**v215recod**
95% CI	*(5-14)*	*(1-6)*	*(17-26)*	*(14-25)*	*(6-12)*	
live with male partner	7%	8%	2%	7%	7%	
95% CI	*(4-9)*	*(4-12)*	*(1-4)*	*(4-10)*	*(2-11)*	
live with parents/relatives	64%	82%	69%	69%	73%	
95% CI	*(56-71)*	*(76-88)*	*(64-74)*	*(62-75)*	*(68-78)*	
Live with non-relative or alone	20%	7%	7%	5%	11%	
95% CI	*(12-27)*	*(4-10)*	*(5-9)*	*(2-8)*	*(8-15)*	
Denominator(all)	398	390	370	405	412	

B. SEXUAL IDENTITY

Table B1. Gender Identity (Respondent self-identified)

	YGN	MDY	MYA	PTN	PYY	Variable name
Male	60%	49%	83%	75%	56%	**v301**
95% CI	*(52-68)*	*(38-59)*	*(79-88)*	*(70-81)*	*(51-62)*	
Female	21%	6%	4%	18%	3%	
95% CI	*(13-28)*	*(0-11)*	*(2-6)*	*(13-23)*	*(0-5)*	
Achaw[29]	19%	46%	13%	7%	41%	
95% CI	*(13-25)*	*(36-55)*	*(9-17)*	*(5-9)*	*(35-47)*	
Denominator(all)	399	390	371	405	414	

[29] Also translated to a term similar to Transgender/gay

Table B2. Sexual attraction (Respondent self-described)

	YGN	MDY	MYA	PTN	PYY	Variable name
Only attracted to males	48%	58%	15%	24%	54%	**v302recod**
95% CI	*(40-55)*	*(48-68)*	*(10-19)*	*(18-29)*	*(47-60)*	
mostly attracted to males	30%	4%	11%	5%	3%	
95% CI	*(23-38)*	*(1-7)*	*(7-15)*	*(3-7)*	*(0-7)*	
Equally attracted to both male and female	18%	32%	32%	52%	39%	
95% CI	*(13-24)*	*(23-41)*	*(27-37)*	*(45-59)*	*(33-44)*	
mostly attracted to females	4%	6%	43%	19%	5%	
95% CI	*(1-7)*	*(2-11)*	*(36-49)*	*(14-24)*	*(2-7)*	
Denominator(all)	399	390	371	405	414	

Table B3. Group identity (Respondent self-identified)

Apwint (open)	31%	36%	10%	23%	36%	**v303**
95% CI	*(22-39)*	*(28-45)*	*(7-13)*	*(17-28)*	*(30-42)*	
	YGN	MDY	MYA	PTN	PYY	Variable name
Apone (hidden)	18%	16%	9%	5%	20%	
95% CI	*(11-25)*	*(9-24)*	*(6-12)*	*(3-7)*	*(17-24)*	
Tha Nge	51%	47%	81%	73%	43%	
95% CI	*(42-60)*	*(38-57)*	*(77-86)*	*(66-79)*	*(37-50)*	
Denominator(all)	399	383	371	405	414	

Table B4a. Outness_ Respondents would say none, some, most or all "Close friends" know that he has sex with men

None	13%	5%	11%	12%	5%	**v304arecod**
95% CI	*(8-18)*	*((-1)-10)*	*(8-14)*	*(6-18)*	*(3-8)*	
Some	43%	9%	54%	60%	27%	
95% CI	*(36-50)*	*(4-13)*	*(49-59)*	*(53-66)*	*(21-33)*	
Most	44%	86%	35%	28%	68%	
95% CI	*(36-53)*	*(80-93)*	*(29-40)*	*(22-34)*	*(62-74)*	
Denominator(all)	399	390	371	405	414	

Table B4b. Outness_ Respondents would say none, some, most or all "Family" know that he has sex with men

	YGN	MDY	MYA	PTN	PYY	Variable name
None	85%	58%	89%	88%	72%	**v304brecod**
95% CI	*(79-90)*	*(49-66)*	*(85-93)*	*(84-91)*	*(67-78)*	
Some	5%	10%	7%	7%	14%	
95% CI	*(3-8)*	*(6-14)*	*(4-11)*	*(5-10)*	*(10-19)*	
Most	10%	32%	4%	5%	13%	
95% CI	*(5-15)*	*(25-40)*	*(2-6)*	*(3-7)*	*(9-18)*	
Denominator(all)	399	390	371	405	414	

Table B4c. Outness_ Respondents would say none, some, most or all "Relatives" know that he has sex with men

None	82%	60%	86%	87%	77%	**v304crecod**
95% CI	*(76-88)*	*(52-68)*	*(82-90)*	*(83-90)*	*(71-82)*	
Some	10%	11%	12%	9%	15%	
95% CI	*(6-13)*	*(7-15)*	*(8-16)*	*(6-12)*	*(10-20)*	
Most	8%	29%	2%	4%	8%	
95% CI	*(4-13)*	*(22-37)*	*(1-3)*	*(3-6)*	*(4-12)*	
Denominator(all)	399	390	371	405	414	

Table B4d. Outness_ Respondents would say none, some, most or all "Male friends" know that he has sex with men

None	14%	6%	13%	8%	5%	**v304drecod**
95% CI	*(9-19)*	*(3-9)*	*(10-17)*	*(2-14)*	*(2-8)*	
Some	42%	18%	68%	54%	41%	
95% CI	*(34-50)*	*(10-26)*	*(64-73)*	*(48-61)*	*(36-47)*	
Most	44%	76%	18%	37%	54%	
95% CI	*(35-52)*	*(68-84)*	*(15-22)*	*(31-44)*	*(48-59)*	
Denominator(all)	399	389	371	405	414	

Table B4e. Outness_ Respondents would say none, some, most or all "Famale friends" know that he has sex with men

None	82%	54%	88%	83%	77%	**v304erecod**
95% CI	*(75-88)*	*(45-62)*	*(84-92)*	*(79-88)*	*(72-82)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Some	9%	9%	9%	13%	15%	
95% CI	*(6-12)*	*(4-14)*	*(5-12)*	*(9-17)*	*(11-19)*	
Most	10%	38%	3%	4%	8%	
95% CI	*(4-15)*	*(30-45)*	*(1-4)*	*(2-5)*	*(5-11)*	
Denominator(all)	395	390	370	404	414	

Table B4f. Outness_ Respondents would say none, some, most or all "Employers" know that he has sex with men

None	70%	61%	78%	69%	80%	**v304frecod**
95% CI	*(62-79)*	*(51-71)*	*(73-84)*	*(60-78)*	*(73-86)*	
Some	11%	3%	13%	6%	6%	
95% CI	*(5-18)*	*(0-5)*	*(10-17)*	*(2-9)*	*(3-9)*	
Most	18%	36%	8%	25%	14%	
95% CI	*(11-25)*	*(26-46)*	*(5-11)*	*(17-33)*	*(8-21)*	
Denominator(all)	348	237	287	298	251	

Table B4g. Outness_ Respondents would say none, some, most or all "Co-workers" know that he has sex with men

None	20%	26%	38%	28%	26%	**v304grecod**
95% CI	*(14-26)*	*(17-35)*	*(32-43)*	*(20-35)*	*(21-32)*	
Some	34%	10%	46%	39%	30%	
95% CI	*(27-42)*	*(6-15)*	*(40-52)*	*(32-46)*	*(25-36)*	
Most	*46%*	*64%*	*16%*	*33%*	*43%*	
95% CI	(38-54)	(55-73)	(12-20)	(26-41)	(37-50)	
Denominator(all)	366	362	337	380	330	

C. GENERAL SEXUAL HISTORY

Table C1. First sexual exposure

	YGN	MDY	MYA	PTN	PYY	Variable name
Age at first sex Mean	17	17	18	17	17	**v401**

	YGN	MDY	MYA	PTN	PYY	Variable name
Median	17	17	18	17	16	
25th-75th %tile	*(15-18)*	*(15-19)*	*(16-20)*	*(16-18)*	*(15-18)*	
Age at first anal sex Mean	17	17	20	18	17	**v403all**
	YGN	MDY	MYA	PTN	PYY	Variable name
Median	17	17	19	18	17	
25th-75th %tile	*(15-18)*	*(15-19)*	*(17-22)*	*(16-19)*	*(15-18)*	
First sexual partner was Male	95%	84%	60%	70%	88%	**v402**
95% CI	*(91-98)*	*(76-91)*	*(55-66)*	*(63-76)*	*(84-92)*	
Denominator(all)	399	390	371	405	414	

Table C2. Duration of sexual activity (years)

Being sexually active Mean	9	9	7	6	9	**dursxact**
Median	6	5	5	4	6	
25th-75th %tile	*(2-13)*	*(2-12)*	*(2-11)*	*(2-8)*	*(3-12)*	
Having anal sex with men Mean	9	8	6	5	9	**durmsm**
Median	6	4	3	4	6	
25th-75th %tile	*(2-13)*	*(2-12)*	*(1-8)*	*(1-7)*	*(3-12)*	
Anal sex with men ≤ 1yr	20%	14%	33%	25%	11%	**msm1yr**
95% CI	*(13-26)*	*(8-20)*	*(29-38)*	*(18-32)*	*(6-15)*	
Denominator(all)	397	389	371	403	413	

Table C3. Anal sex position

Anal sex position – ever had

Top(insertive)	52%	48%	82%	74%	44%	**v404**
95% CI	*(43-61)*	*(38-59)*	*(77-87)*	*(68-80)*	*(38-50)*	
Bottom(receptive)	42%	48%	16%	24%	52%	
95% CI	*(33-51)*	*(38-58)*	*(12-21)*	*(18-29)*	*(46-58)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Both top and bottom	6%	4%	2%	2%	4%	
95% CI	*(3-9)*	*(2-6)*	*(1-3)*	*(1-3)*	*(2-6)*	
Denominator (all)	399	390	371	405	414	

Usual anal sex position in the last 12 months

Top(insertive)	52%	48%	81%	73%	44%	**v405**
95% CI	*(42-61)*	*(38-58)*	*(77-86)*	*(67-79)*	*(38-50)*	
Bottom(receptive)	43%	49%	16%	23%	52%	
95% CI	*(33-52)*	*(39-59)*	*(12-20)*	*(18-29)*	*(47-58)*	
Both top and bottom	6%	3%	3%	4%	3%	
95% CI	*(3-9)*	*(1-4)*	*(2-4)*	*(2-5)*	*(2-5)*	
Denominator(all)	399	390	371	405	414	

Table C4. Sexual activity with male partners in the last 12 months

Mean	22	29	23	11	23	**v406**
Median	10	10	5	5	15	
25th-75th %tile	*(3-30)*	*(3-24)*	*(2-10)*	*(2-10)*	*(5-30)*	
1-4 male partners	31%	32%	49%	44%	22%	**v406cat**
95% CI	*(23-39)*	*(22-41)*	*(44-54)*	*(38-51)*	*(16-28)*	
5-9 male parters	19%	9%	21%	25%	13%	
95% CI	*(12-25)*	*(5-14)*	*(16-25)*	*(20-30)*	*(9-17)*	
10-19 male partners	13%	23%	12%	17%	22%	
95% CI	*(9-17)*	*(17-29)*	*(9-15)*	*(12-21)*	*(18-26)*	
≥20 male partners	37%	36%	18%	14%	43%	
95% CI	*(29-46)*	*(28-44)*	*(14-22)*	*(10-18)*	*(38-49)*	
Denominator(all)	339	372	371	405	413	

Table C5. Sexual activity with male partners in the last one month

Number of male partners in the last one month

	YGN	MDY	MYA	PTN	PYY	Variable name
Mean	4	5	3	2	3	**v407**

	YGN	MDY	MYA	PTN	PYY	Variable name
Median	2	2	1	1	2	
25th-75th %tile	*(1-5)*	*(1-5)*	*(0-3)*	*(0-2)*	*(1-5)*	
Denominator(all)	398	390	369	405	411	

Anal sex acts in the last one month

Mean	7	9	8	6	8	**v408**
Median	5	5	4	3	5	
25th-75th %tile	*(3-9)*	*(3-10)*	*(2-8)*	*(2-6)*	*(3-10)*	
Denominator (respondents who had male partner in the last month)	368	377	255	284	396	

Table C6. Condom use with male partner

Consistence condom use during anal sex with male partner in the last month

Never	20%	4%	5%	4%	12%	**v409recod**
95% CI	*(13-27)*	*(2-7)*	*(2-8)*	*(2-6)*	*(7-16)*	
Sometimes	38%	11%	32%	29%	43%	
95% CI	*(30-46)*	*(6-15)*	*(25-39)*	*(22-36)*	*(38-49)*	
Always	42%	85%	63%	67%	45%	
95% CI	*(34-50)*	*(80-90)*	*(56-70)*	*(60-74)*	*(39-50)*	

Condom use at last anal sex among those who had anal sex with a male partner in the last one month

Condom use at last anal sex only those who had a partner in the last one month	66%	91%	88%	83%	69%	**v4101mo**
95% CI	*(58-73)*	*(87-95)*	*(85-92)*	*(78-88)*	*(63-75)*	
Denominator (respondents who had male partner in the last month)	374	377	258	285	399	

Condom use at last anal sex with a male partner

	YGN	MDY	MYA	PTN	PYY	Variable name
Condom use at last anal sex	64%	91%	88%	79%	69%	v410
95% CI	*(56-72)*	*(87-95)*	*(85-91)*	*(74-84)*	*(64-75)*	
Denominator (all)	398	390	371	405	412	

Table C7. Reasons for not using condom at last anal sex (multiple responses allowed)

Not easily available	15%	12%	34%	48%	24%	v411a
95% CI	*(5-24)*	*(4-20)*	*(11-56)*	*(30-67)*	*(13-35)*	
Under influence of alcohol/drug	1%	11%	17%	14%	9%	v411c
95% CI	*((-1)-3)*	*(11-11)*	*(7-27)*	*(3-24)*	*(3-15)*	
Partner doesn't like to use it	6%	15%	4%	0.3%	7%	v411d
95% CI	*(2-10)*	*(7-23)*	*(3-5)*	*(0-1)*	*((-2)-17)*	
I don't like to use it	43%	16%	20%	8%	29%	v411e
95% CI	*(29-58)*	*(4-28)*	*(9-30)*	*(4-13)*	*(12-46)*	
Both do not like to use it	22%	9%	7%	7%	13%	v411f
95% CI	*(9-35)*	*(5-13)*	*(5-9)*	*(-2-16)*	*(6-19)*	
Don't think it is necessary	13%	28%	1%	4%	2%	v411g
95% CI	*(5-22)*	*(7-50)*	*(-2-5)*	*(3-5)*	*(0-5)*	
Don't think of it/forgot	16%	11%	14%	14%	8%	v411h
95% CI	*(8-24)*	*(0-21)*	*(6-22)*	*(4-24)*	*(5-10)*	
I know this partner well	8%	1%	18%	9%	26%	v411i
95% CI	*(0-16)*	*(1-1)*	*(9-28)*	*(4-15)*	*(12-41)*	
Denominator (respondents who did not use condom at their last anal sex)	126	43	44	81	104	

Table C8. Group sex

	YGN	MDY	MYA	PTN	PYY	Variable name
ever had group sex	9%	12%	13%	12%	8%	v412
95% CI	*(5-13)*	*(7-16)*	*(10-16)*	*(9-16)*	*(4-11)*	
Denominator (all)	399	390	371	405	414	

Table C8. (cont.)
Usual condom use practice during group sex

Use one condom with multiple partners	2%	2%	11%	3%	5%	v413
95% CI	*(1-3)*	*((-6)-11)*	*(8-13)*	*(2-5)*	*(1-9)*	
Change condom with every partner	77%	89%	89%	93%	75%	
95% CI	*(57-97)*	*(78-101)*	*(87-92)*	*(91-95)*	*(58-91)*	
Do not use any condom	21%	8%	0%	3%	20%	
95% CI	*(1-41)*	*((-1) -17)*		*(2-4)*	*(5-36)*	
Denominator (respondents who had experience of group sex)	40	57	47	60	25	

Table C9. Type of partner ever had for vaginal or anal sex (multiple responses allowed)

ever had regular male partner	26%	67%	23%	31%	32%	v414a
95% CI	*(20-32)*	*(59-74)*	*(19-28)*	*(25-36)*	*(27-38)*	
ever had casual male partner	82%	89%	93%	89%	90%	v414b
95% CI	*(75-88)*	*(83-95)*	*(90-95)*	*(85-93)*	*(84-95)*	
ever had commercial male partner	29%	27%	5%	5%	19%	v414c
95% CI	*(21-38)*	*(20-35)*	*(3-7)*	*(3-7)*	*(15-23)*	
ever had female partner	24%	33%	65%	61%	26%	v414d
95% CI	*(17-31)*	*(24-42)*	*(59-71)*	*(54-68)*	*(20-31)*	
Denominator (all)	399	390	371	405	414	

D. REGULAR MALE PARTNER

Table D1. Regular male partner in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Had a regular male partner in the last 12 months	26%	48%	23%	30%	32%	**v501all**
95% CI	*(21-32)*	*(40-56)*	*(18-27)*	*(24-36)*	*(26-38)*	
Denominator (all)	399	390	371	405	414	
Number of regular male partners in the last 12 months						
Mean	3	2	5	2	2	**v502**
Median	1	1	1	1	1	
25th-75th %tile	*(1-2)*	*(1-2)*	*(1-3)*	*(1-2)*	*(1-1)*	
Denominator (respondents who had regular male partners in the last 12 months)	134	165	90	133	107	
No regular male partner	74%	52%	77%	70%	68%	**v502cat**
95% CI	*(68-80)*	*(43-61)*	*(73-82)*	*(64-76)*	*(62-75)*	
1-2 regular male parters	22%	42%	15%	26%	28%	
95% CI	*(16-27)*	*(33-51)*	*(12-19)*	*(21-32)*	*(22-34)*	
3-9 regular male partners	4%	5%	5%	4%	3%	
95% CI	*(2-5)*	*(1-9)*	*(3-7)*	*(1-7)*	*(0-5)*	
≥10 regular male partners	1%	1%	2%	0%	1%	
95% CI	*(0-2)*	*(0-2)*	*(1-4)*	*(0-1)*	*(0-1)*	
Denominator (all)	397	390	371	405	414	

Table D2. Usual sex position with regular male partner

	YGN	MDY	MYA	PTN	PYY	Variable name
Top (insertive)	42%	49%	44%	55%	31%	**v503**
95% CI	*(31-53)*	*(31-67)*	*(35-53)*	*(44-68)*	*(16-46)*	
Bottom(receptive)	48%	50%	51%	41%	67%	
95% CI	*(37-58)*	*(32-68)*	*(42-60)*	*(28-53)*	*(52-82)*	
Both top and bottom	10%	1%	5%	4%	2%	
95% CI	*(3-17)*	*(0-1)*	*(3-6)*	*(0-8)*	*(1-2)*	
Denominator (respondents who had regular male partners in the last 12 months)	136	165	90	133	107	

Table D3. Comparison of usual anal sex position between with regular and male partners generally

usual sex position with regular partner is the same as usual position generally	100%	97%	94%	93%	99%	**cposur**
95% CI	*(99-100)*	*(96-99)*	*(90-98)*	*(89-98)*	*(98-100)*	
Denominator (respondents who had regular male partners in the last 12 months)	136	165	90	133	107	

Table D4. Sexual activity with regular male partners in the last one month

Had sex with regular partner in the last one month	81%	88%	77%	61%	87%	**v504**
95% CI	*(73-90)*	*(77-98)*	*(68-85)*	*(46-74)*	*(81-95)*	
Denominator (respondents who had regular male partners in the last 12 months)	136	165	90	133	107	

Number of anal sex acts with regular male partner in the last one month

Mean	7	8	8	7	8	**v505**
Median	5	4	5	4	5	

	YGN	MDY	MYA	PTN	PYY	Variable name
25th-75th %tile	*(2-10)*	*(2-8)*	*(2-10)*	*(2-10)*	*(2-10)*	
Denominator (respondents who had sex with regular male partners in the last one months)	116	145	69	97	88	

Table D5. Condom use with regular male partner

Consistent condom use during anal sex with regular male partner in the last month						
Never	33%	10%	16%	6%	24%	**v506recod**
95% CI	*(24-42)*	*(4-16)*	*(8-25)*	*(1-10)*	*(6-42)*	
Sometimes	29%	9%	26%	46%	32%	
95% CI	*(17-41)*	*(3-16)*	*(14-37)*	*(33-59)*	*(16-49)*	
Always	38%	81%	58%	49%	44%	
95% CI	*(27-49)*	*(72-90)*	*(43-73)*	*(35-61)*	*(27-60)*	

Condom use at last anal sex among those who had a regular male partner in the last one month

Condom use at last anal sex	58%	86%	72%	74%	57%	**v5071mo**
95% CI	*(48-69)*	*(78-93)*	*(61-81)*	*(63-86)*	*(36-79)*	
Denominator (respondents who had sex with regular male partners in the last one months)	114	145	69	97	88	

Condom use at last anal sex with regular male partner

Condom use at last anal sex	61%	81%	72%	73%	57%	**v507**
95% CI	*(52-71)*	*(72-90)*	*(64-80)*	*(64-83)*	*(41-72)*	
Denominator (respondents who ever had regular male partner)	135	246	93	135	112	

Table D6. Reasons for not using condom at last anal sex with regular male partner (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
Not easily available	7%	19%	21%	29%	4%	**v508a**
95% CI	*((-1)-16)*	*(6-31)*	*(5-37)*	*(14-45)*	*(0-7)*	
Under influence of alcohol/drug	1%	0%	0%	5%	0%	**v508c**
95% CI	*((-1)-3)*			*(3-8)*		
Partner does not like to use it	9%	37%	10%	3%	19%	**v508d**
95% CI	*((-1)-19)*	*(11-64)*	*(3-17)*	*((-2)-7)*	*((-3)-42)*	
I do not like to use it	30%	10%	20%	8%	14%	**v508e**
95% CI	*(17-43)*	*(2-19)*	*(7-34)*	*(0-17)*	*((-71)-99)*	
Both do not like to use it	31%	13%	10%	26%	20%	**v508f**
95% CI	*(19-44)*	*(2-25)*	*(6-15)*	*(5-47)*	*(4-37)*	
Do not think it is necessary	29%	29%	4%	4%	7%	**v508g**
95% CI	*(20-37)*	*(10-47)*	*(1-6)*	*(3-4)*	*(1-12)*	
Do not think of it/forgot	16%	1%	4%	6%	5%	**v508h**
95% CI	*(4-27)*	*(0-1)*	*(2-6)*	*(4-8)*	*((-9)-20)*	
I know this partner well	7%	2%	37%	36%	65%	**v508i**
95% CI	*(5-10)*	*(1-2)*	*(22-52)*	*(24-47)*	*(45-85)*	
Denominator (respondents who did not use condom at their last anal sex with regular partner)	56	59	25	44	42	

E. CASUAL (NON-PAYING) MALE PARTNER

Table E1. Casual male partner in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Had a casual male partner in the last 12 months	82%	77%	92%	89%	89%	**v601all**
95% CI	*(75-88)*	*(69-86)*	*(90-95)*	*(85-93)*	*(85-94)*	
Denominator (all)	399	390	371	405	414	

Number of casual male partners in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Mean	20	23	22	11	23	**v602**
Median	10	13	4	5	15	
25th-75th %tile	*(3-30)*	*(5-25)*	*(2-10)*	*(2-10)*	*(5-25)*	
Denominator (respondents who had casual male partners in the last 12 months)	280	313	341	354	382	
No casual male partner	20%	23%	8%	11%	10%	**v602cat**
95% CI	*(13-27)*	*(14-32)*	*(5-10)*	*(7-15)*	*(5-16)*	
1-2 casual male parters	9%	10%	29%	26%	8%	
95% CI	*(4-13)*	*(3-17)*	*(24-34)*	*(19-33)*	*(4-12)*	
3-9 casual male partners	30%	18%	36%	35%	22%	
95% CI	*(22-37)*	*(12-24)*	*(31-41)*	*(29-42)*	*(17-26)*	
≥10 casual male partners	42%	50%	27%	27%	60%	
95% CI	*(33-50)*	*(40-59)*	*(23-32)*	*(22-33)*	*(54-66)*	
Denominator (all)	353	372	371	405	412	

Table E2. Usual sex position with casual male partner

Top(insertive)	57%	47%	83%	71%	41%	**v603**
95% CI	*(47-67)*	*(36-58)*	*(78-89)*	*(65-78)*	*(35-47)*	
Bottom(receptive)	36%	51%	15%	23%	55%	
95% CI	*(26-46)*	*(40-61)*	*(9-20)*	*(17-0)*	*(49-61)*	
Both top and bottom	7%	3%	2%	6%	3%	
95% CI	*(3-10)*	*(1-4)*	*(1-4)*	*(3-8)*	*(1-5)*	
Denominator (respondents who had casual male partners in the last 12 months)	326	331	341	354	384	

Table E3. Comparison of usual anal sex position between casual and male partners generally

	YGN	MDY	MYA	PTN	PYY	Variable name
usual sex position with casual partner is the same as usual position generally	99%	99%	99%	97%	99%	cposuc
95% CI	*(98-100)*	*(98-100)*	*(98-100)*	*(95-98)*	*(98-100)*	
Denominator (respondents who had casual male partners in the last 12 months)	326	331	341	354	384	
usual sex position with casual partner is the same as usual position with regular partner	Can't run	95%	91%	94%	97%	cposrc
95% CI		*(93-98)*	*(85-98)*	*(93-95)*	*(93-100)*	
Denominator (respondents who had both regular and casual male partners in the last 12 months)		113	61	84	78	

Table E4. Sexual activity with casual male partners in the last one month

Had sex with casual partner in the last one month	88%	83%	64%	55%	91%	v604
95% CI	*(81-94)*	*(75-90)*	*(58-69)*	*(48-63)*	*(86-95)*	
Denominator (respondents who had casual male partners in the last 12 months)	326	331	341	354	382	

Number of anal sex acts with casual male partner in the last one month

Mean	6	6	7	4	6	v605
Median	4	3	3	2	5	
25th-75th %tile	*(2-6)*	*(2-8)*	*(2-7)*	*(2-5)*	*(3-8)*	
Denominator (respondents who had sex with casual male partners in the last one months)	289	282	219	209	357	

Table E5. Condom use with casual male partner

Consistent condom use during anal sex with casual male partner in the last month						
	YGN	MDY	MYA	PTN	PYY	Variable name
Never	22%	2%	4%	4%	7%	**v606recod**
95% CI	*(14-31)*	*(0-5)*	*(1-7)*	*(1-6)*	*(4-10)*	
Sometimes	37%	8%	31%	24%	42%	
95% CI	*(29-45)*	*(3-13)*	*(22-39)*	*(17-31)*	*(36-47)*	
Always	41%	90%	65%	72%	51%	
95% CI	*(32-49)*	*(84-95)*	*(57-74)*	*(65-79)*	*(45-57)*	

Condom use at last anal sex among those who had sex with casual male partner in the last one month

Condom use at last anal sex	63%	94%	91%	85%	78%	**v6071mo**
95% CI	*(55-72)*	*(90-98)*	*(88-95)*	*(79-91)*	*(73-83)*	
Denominator (among who had sex with casual male partner in the last month)	292	286	219	209	357	

Condom use at last anal sex with casual male partner

Condom use at last anal sex	62%	95%	91%	81%	78%	**v607**
95% CI	*(53-71)*	*(92-98)*	*(88-94)*	*(74-87)*	*(73-82)*	
Denominator (respondents who ever had casual male partner)	326	354	342	354	385	

Table E6. Reasons for not using condom at last anal sex with casual male partner (multiple responses allowed)

Not easily available	19%	15%	45%	52%	36%	**v608a**
95% CI	*(6-32)*	*(3-27)*	*(16-74)*	*(30-75)*	*(23-48)*	
Under influence of alcohol/drug	1%	20%	24%	17%	10%	**v608c**
95% CI	*(1-1)*	*((-12)-51)*	*(14-33)*	*(6-28)*	*(2-18)*	
Partner does not like to use it	5%	12%	5%	0%	2%	**v608d**
95% CI	*(0-9)*	*((-5)-29)*	*(4-7)*		*(0-5)*	
	YGN	MDY	MYA	PTN	PYY	Variable name

	YGN	MDY	MYA	PTN	PYY	Variable name
I do not like to use it	46%	10%	19%	10%	39%	**v608e**
95% CI	(26-66)	((-12)-32)	(7-30)	(5-15)	(24-54)	
Both do not like to use it	18%	1%	7%	3%	11%	**v608f**
95% CI	*(2-33)*	*(0-2)*	*(5-10)*	*(0-6)*	*(6-16)*	
Do not think it is necessary	12%	10%	2%	4%	5%	**v608g**
95% CI	*(5-19)*	*((-6)-25)*	*((-4)-7)*	*((-1)-9)*	*((-5)-15)*	
Do not think of it/forgot	19%	24%	5%	13%	11%	**v608h**
95% CI	(9-28)	(3-45)	((-2)-12)	(1-24)	(5-17)	
I know this partner well	2%	0%	3%	1%	3%	**v608i**
95% CI	*((-1)-5)*		*(2-4)*	*((-2)-5)*	*(1-5)*	
Denominator (respondents who did not use condom at their last anal sex with casual partner)	95	18	31	55	79	

F. MALE (PAID) COMMERCIAL SEX PARTNER

Table F1. Male commercial sex partner in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Had bought anal sex from a man in the last 12 months	8%	8%	2%	2%	9%	**v701all**
95% CI	*(4-12)*	*(5-11)*	*(1-3)*	*(1-4)*	*(7-12)*	
Denominator (all)	399	390	371	405	414	

Number of male commercial sex partners in the last 12 months

Mean	4	6	20	3	6	**v702**
Median	3	3	13	3	4	
25th-75th %tile	*(1-5)*	*(1-10)*	*(7-25)*	*(2-4)*	*(1-10)*	
Denominator (respondents who had bought anal sex from a man in the last 12 months)	38	38	7	15	47	

	YGN	MDY	MYA	PTN	PYY	Variable name
No commercial sex partner	92%	93%	98%	98%	91%	**v702cat**
95% CI	*(89-96)*	*(90-96)*	*(97-99)*	*(96-99)*	*(88-93)*	
1-2 commercial sex partners	3%	3%	0.3%	1%	4%	
95% CI	*(1-6)*	*(1-6)*	*(0-1)*	*(0-2)*	*(2-5)*	
3-9 commercial sex partners	4%	2%	1%	1%	3%	
95% CI	*(1-6)*	*(0-3)*	*(0-1)*	*(0-2)*	*(2-4)*	
≥10 commercial sex partners	1%	2%	1%	0.3%	3%	
95% CI	*(0-2)*	*(1-3)*	*(0-1)*	*(0-1)*	*(1-4)*	
Denominator (all)	396	386	371	405	414	

Table F2. Male commercial sex partner in the last one month

Number of male commercial sex partners in the last one month

Mean	2	2	8	1	2	**v703**
Median	1	1	3	0	1	
25th-75th %tile	*(0.75-2)*	*(0-2)*	*(2-6)*	*(0-1)*	*(0-3)*	
Denominator (respondents who had bought anal sex from a man in the last 12 months)	40	42	7	15	46	

Number of anal sex acts with male commercial sex partner in the last one month

Mean	4	4	15	2	4	**v704**
Median	2	2	5	2	3	
25th-75th %tile	*(1-4)*	*(2-4)*	*(4-16)*	*(1-5)*	*(2-5)*	
Denominator (respondents who had casual male partners in the last one month)	31	28	6	6	31	

Table F3. Condom use with male commercial sex partner

Consistent condom use during anal sex with male commercial sex partner in the last month

	YGN	MDY	MYA	PTN	PYY	Variable name
Never		4%		21%	3%	**v705recod**
95% CI		*((-5)-13)*		*((-16)-60)*	*((-1)-6)*	
Sometimes		11%		10%	32%	
95% CI		*(3-18)*		*((-6)-25)*	*(10-55)*	
Always		86%		68%	65%	
95% CI		*(75-97)*		*(29-107)*	*(42-88)*	
Denominator (respondents who had casual male partners in the last one month)	can't run	28	can't run	6	31	

Table F3. (cont.)

Condom use at last anal sex with commercial partner

Condom use at last anal sex		97%		64%	88%	**v706**
95% CI		*(92-102)*		*(20-105)*	(80-95)	
Denominator (respondents who had commercial male partner in the last 12 months)		41		15	46	

G. SEX WORK

Table G1. Male paying partners (clients) in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Sold anal sex to a man in the last 12 months	25%	15%	4%	3%	11%	**v708all**
95% CI	*(17-33)*	*(9-21)*	*(2-5)*	*(2-5)*	*(7-15)*	
Denominator (all)	399	390	371	405	414	

Number of male paying partners (clients) in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Mean	14	16	27	12	11	**v709**
Median	8	10	11	5	4	
25th-75th %tile	*(4-20)*	*(3-20)*	*(2-35)*	*(2-13)*	*(1-16)*	
Denominator (respondents who received money or gift in exchange for anal sex in the last 12 months)	76	62	16	16	42	
No male paying partners	78%	87%	96%	97%	89%	**v709cat**
95% CI	*(71-85)*	*(81-92)*	*(95-98)*	*(95-99)*	*(85-93)*	
1-2 male paying partners	2%	2%	1%	1%	5%	
95% CI	*(0-3)*	*(1-4)*	*(0-2)*	*(0-2)*	*(3-8)*	
3-9 male paying partners	10%	4%	0.3%	1%	0.7%	
95% CI	*(5-15)*	*(1-6)*	*(0-1)*	*(0-2)*	*(0-1)*	
≥10 male paying partners	10%	7%	2%	1%	5%	
95% CI	*(5-16)*	*(2-12)*	*(1-4)*	*(0-3)*	*(2-7)*	
Denominator (all)	387	382	371	405	414	

Table G2. Male paying partners (clients) in the last one month

Number of male paying partners in the last one month

Mean	4	6	6	1	3	**v710**
Median	2	3	2	0	1	
25th-75th %tile	*(1-5)*	*(1-4)*	*(0-6)*	*(0-1)*	*(0-3)*	
Denominator (respondents who received money or gift in exchange for anal sex in the last one month)	84	68	16	16	41	

Number of anal sex acts with male paying partner in the last one month

	YGN	MDY	MYA	PTN	PYY	Variable name
Mean	6	9	11	7	6	**v711**
	YGN	MDY	MYA	PTN	PYY	Variable name
Median	3	3	3	2	3	
25th-75th %tile	*(2-5)*	*(2-7)*	*(2-15)*	*(1-8)*	*(2-6)*	
Denominator (respondents who had sex with paying male partners in the last one month)	73	54	10	8	30	

Table G3. Condom use with male paying partner (clients)

Consistent condom use during anal sex with male paying partners in the last month

Never						**v712recod**
95% CI						
Sometimes		6%				
95% CI		*((-3)-16)*				
Always		94%				
95% CI		*(84-103)*				
Denominator (respondents who had paying male partners in the last one month)	can't run	56	can't run	can't run	can't run	

Condom use at last anal sex among those who had sex with paying partner in the last one month

Condom use at last anal sex		99%	100%	100%		**v7131mo**
95% CI		*(99-99)*				
Denominator (respondents who had paying male partners in the last one month)	can't run	53	10	8	can't run	

Condom use at last anal sex with male paying partner

Condom use at last anal sex		99%		91%	55%	v713
95% CI		*(98-99)*		*(87-95)*	*(33-73)*	
Denominator (respondents who ever had paying male partner)	can't run	69	can't run	16	39	

H. FEMALE PARTNER

Table H1. Female partners in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
had insertive vaginal or anal sex in the last 12 months	24%	26%	55%	61%	22%	v801all
95% CI	*(16-31)*	*(18-34)*	*(49-61)*	*(54-67)*	*(17-27)*	
Denominator (all)	398	390	371	405	414	

Number of female partners in the last 12 months

Mean	3	2	4	3	3	v802
Median	1	2	2	1	1	
25th-75th %tile	*(1-3)*	*(1-3)*	*(1-4)*	*(1-3)*	*(1-3)*	
Denominator (respondents who had female partners in the last 12 months)	94	71	206	228	76	
No female partner	76%	74%	45%	39%	78%	v802cat
95% CI	*(69-83)*	*(66-82)*	*(39-51)*	*(32-47)*	*(72-83)*	
1_2 female partners	17%	16%	37%	45%	16%	
95% CI	*(11-23)*	*(9-22)*	*(31-42)*	*(38-52)*	*(11-21)*	
3_9 female partners	5%	10%	13%	12%	4%	
95% CI	*(3-7)*	*(5-16)*	*(10-16)*	*(8-15)*	*(1-6)*	
10 and above female partners	2%	0.2%	6%	4%	3%	
95% CI	*((-1)-5)*	*(0-1)*	*(3-8)*	*(0-7)*	*(1-5)*	
Denominator (all)	397	389	371	405	414	

Table H2. Female partners in the last one month

	YGN	MDY	MYA	PTN	PYY	Variable name
Had sex with female partner in the last one month	63%	48%	64%	68%	77%	**v803**
95%CI	*(52-74)*	*(25-70)*	*(57-70)*	*(60-76)*	*(63-91)*	
	YGN	MDY	MYA	PTN	PYY	Variable name
Denominator (respondents had female partners in the last 12 months)	95	72	206	228	76	

Number of anal sex acts with female partner in the last one month

Mean	9	5	11	6	9	**v804**
Median	6	3	7	4	4	
25th-75th %tile	*(2-15)*	*(1-5)*	*(3-18)*	*(2-6)*	*(3-15)*	
Denominator (respondents had sex with female partners in the last one month)	63	42	132	94	57	

Table H3. Condom use with female partner

Consistence condom use with female partner in the last month

Never				53%		**V805recod**
95% CI				*(42-64)*		
Sometimes				28%		
95% CI				*(17-39)*		
Always				18%		
95% CI				*(7-30)*		
Denominator (respondents who had female partners in the last one month)	Can't run	Can't run	Can't run	147	Can't run	

Condom use at last anal sex only to those who had sex with female partner in the last one month

	YGN	MDY	MYA	PTN	PYY	Variable name
Condom use at last anal sex only those who had female partner in the last one month	40%			28%		v8061mo
95% CI	(16-65)			(16-39)		
Denominator (respondents who had female partners in the last one month)	63	Can't run	Can't run	147	Can't run	

Condom use at last anal sex with female partner

Condom use at last anal sex				37%	26%	v806
95% CI				*(28-46)*	*(13-38)*	
Denominator (respondents who ever had female partner)	Can't run	Can't run	Can't run	230	88	

Table H4. Reasons for not using condom at last sex with female partner (multiple responses allowed)

not easily available			6%	8%		v807a
95% CI			*(2-10)*	*(3-13)*		
Using other contraception			13%	0.3%		v807c
95% CI			*(8-19)*	*(0-1)*		
was under influence of alcohol/drug			2%	1%		v807d
95% CI			*(2-2)*	*(0-2)*		
sex partner does not like to use it			0%	5%		v807e
95% CI				*(5-6)*		
I don't like to use it			7%	25%		v807f
95% CI			*(2-11)*	*(12-37)*		
both do not like to use it			27%	10%		v807g
95% CI			*(19-36)*	*(5-15)*		

	YGN	MDY	MYA	PTN	PYY	Variable name
Don't think it is necessary			25%	8%		v807h
95% CI			*(15-35)*	*(1-15)*		
don't think of it/forgot			2%	5%		v807i
95% CI			*(0-4)*	*(2-9)*		
	YGN	MDY	MYA	PTN	PYY	Variable name
I know this partner well			42%	64%		v807j
95% CI			*(32-51)*	*(51-76)*		
Denominator (respondents who did not use condom at their last sex with female partner)	Can't run	Can't run	118	138	Can't run	

I. CONDOM AND LUBRICANTS

Table I1. Condoms sources and accessibility

	YGN	MDY	MYA	PTN	PYY	Variable name
Knows a place or person to get condoms	98%	99%	95%	99%	98%	v901
95% CI	*(97-100)*	*(97-100)*	*(92-97)*	*(97-101)*	*(95-100)*	
Denominator (all)	399	390	371	405	414	

Places known as a source of condoms (multiple responses allowed)

Pharmacy	59%	28%	37%	54%	44%	v902a
95% CI	*(51-67)*	*(21-35)*	*(32-42)*	*(48-61)*	*(39-50)*	
Store/shop	15%	3%	2%	16%	3%	v902b
95% CI	*(8-22)*	*(0-5)*	*(0-4)*	*(11-21)*	*(0-7)*	
Drop In Center	41%	79%	19%	72%	23%	v902c
95% CI	*(32-50)*	*(71-86)*	*(15-23)*	*(67-78)*	*(19-27)*	
Betel Shop	62%	0.04%	21%	45%	53%	v902d
95% CI	*(53-70)*	*(0-0.1)*	*(16-26)*	*(38-51)*	*(48-59)*	
Hospital/Clinic/STD team	13%	7%	14%	8%	26%	v902e

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*(7-19)*	*(1-12)*	*(10-17)*	*(4-11)*	*(20-32)*	
Karaoke/restaurant	7%	0%	0.4%	2%	0.5%	**v902f**
95% CI	*(1-12)*		*(0-1)*	*(0-4)*	*(0-1)*	
Inn/Hotel/Motel/Guesthouse	13%	0.2%	0.1%	1%	7%	**v902g**
95% CI	*(7-19)*	*(0-0.4)*	*(0-0.3)*	*(0-2)*	*(4-11)*	
Outreach worker/Health educator/ BHS	14%	43%	53%	19%	95%	**v902h**
95% CI	*(8-19)*	*(34-52)*	*(47-58)*	*(14-24)*	*(92-98)*	
Peer/Friend	8%	12%	44%	24%	28%	**v902i**
95% CI	*(4-11)*	*(5-20)*	*(39-50)*	*(18-30)*	*(22-34)*	
Other	0%	14%	0%	0%	0%	**v902j**
95% CI		(7-21)				
Denominator (respondents who know where to get condoms)	389	387	351	402	407	

Sum of different places described to get condoms

Mean	2	2	2	2	3	**v902sum**
Median	2	2	2	2	3	
25th-75th %tile	*(2-3)*	*(1-2)*	*(1-2)*	*(2-3)*	*(2-4)*	
Denominator (all)	399	390	371	405	414	

Most common place to get condoms in the last 12 months

sex partner	22%	13%	48%	11%	6%	**v903**
95% CI	*(15-28)*	*(6-20)*	*(42-54)*	*(6-16)*	*(4-8)*	
NGO	51%	81%	47%	66%	90%	
95% CI	*(41-61)*	*(73-88)*	*(41-53)*	*(59-73)*	*(86-93)*	
self bought	28%	6%	5%	23%	4%	
95% CI	*(20-36)*	*(2-10)*	*(3-7)*	*(17-30)*	*(2-7)*	
Denominator (all)	365	389	371	398	412	

Availability of a condom whenever needed

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	11%	0%	0.3%	1%	0%	v904recod
95% CI	*(5-17)*		*(0-1)*	*(0-2)*		
Sometimes	24%	4%	63%	52%	60%	
95% CI	*(18-30)*	*(1-7)*	*(58-68)*	*(45-58)*	*(55-66)*	
	YGN	MDY	MYA	PTN	PYY	Variable name
Always	65%	96%	37%	47%	40%	
95% CI	*(57-72)*	*(93-99)*	*(32-42)*	*(40-54)*	*(34-45)*	
Denominator (all)	394	389	371	404	412	

Table I2. Female condom

ever heard of a female condom	63%	83%	58%	77%	83%	v905
95%CI	*(55-71)*	*(77-90)*	*(52-63)*	*(71-83)*	*(79-87)*	
ever used of a female condom	5%	7%	6%	3%	7%	v906all
95%CI	*(3-8)*	*(4-10)*	*(3-8)*	*(2-5)*	*(1-14)*	
Denominator (all)	399	390	371	405	414	

Reasons of using female condom for anal sex (multiple responses allowed)

Protection from HIV	28%	65%	52%	8%	64%	v907a
95% CI	*(13-42)*	*(41-89)*	*(18-86)*	*(1-12)*	*(27-96)*	
Protection from other infections	58%	1%	7%	30%	47%	v907b
95% CI	*(34-84)*	*(0-2)*	*(-1-14)*	*(1-56)*	*(15-82)*	
Didn't have male condom	8%	2%	18%	8%	15%	v907c
95% CI	*(4-11)*	*(0-5)*	*(3-34)*	*(0-14)*	*((-11)-42)*	
Partner won't use male condom	15%	2%	28%	36%	0%	v907d
95% CI	*(8-23)*	*(0-5)*	*((-21)-78)*	*(14-63)*		
Reduces mess	7%	2%	4%	3%	0%	v907e
95% CI	*(3-11)*	*(0-3)*	*((-4)-11)*	*(1-4)*		
Other	5%	30%	12%	20%	23%	v907f

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*((-19)-28)*	*(6-55)*	*(2-22)*	*((-2)-43)*	*((-12)-57)*	
Denominator (respondents who ever used a female condom for anal sex)	31	41	22	22	8	

Table I3. Respondent with condom

Usually carry condoms	39%	75%	57%	62%	66%	**v908**
95% CI	*(32-47)*	*(66-84)*	*(51-62)*	*(55-69)*	*(60-71)*	
Denominator (all)	399	390	371	405	414	
Reasons for not carrying condom (multiple responses allowed)						
I don’t use condom				21%	58%	**v909a**
95% CI				*(12-30)*	*(46-70)*	
Easily available				63%	11%	**v909b**
95% CI				*(53-74)*	*(4-18)*	
Partners bring their own condoms				17%	16%	**v909c**
95% CI				*(4-31)*	*(8-22)*	
Don’t think about it/forget				3%	8%	**v909d**
95% CI				*(1-6)*	*(1-17)*	
Afraid of being caught carrying condoms				0%	0.6%	**v909e**
95% CI					*(0.7-0.7)*	
				1%	7%	**v909f**
95% CI				*(0-3)*	*(0-13)*	
Denominator (respondents who don't usually carry condom)	Can't run	Can't run	Can't run	152	126	

Table I4. Condom breaking experience

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever had condom breaking experience	25%	35%	28%	24%	28%	**v910**
95% CI	*(18-31)*	*(27-43)*	*(23-33)*	*(18-29)*	*(23-33)*	
Denominator (all)	399	390	371	403	414	
Reasons of condom broke (multiple responses allowed)						
poor quality of condom	4%	13%	8%	9%	12%	**v911a**
95% CI	*(0-8)*	*(6-21)*	*(3-13)*	*(2-16)*	*(6-19)*	
expired condom	5%	5%	14%	23%	9%	**v911b**
95% CI	*(1-9)*	*(-5-14)*	*(4-24)*	*(7-40)*	*(0-18)*	
condom wrong size	0.6%	0.5%	2%	2%	0.6%	**v911c**
95% CI	*(0-1)*	*(0-1)*	*(1-4)*	*(1-3)*	*(0-1)*	
user error	25%	44%	35%	47%	51%	**v911d**
95% CI	*(9-41)*	*(30-57)*	*(27-43)*	*(34-61)*	*(40-63)*	
no lubricant	9%	13%	8%	3%	12%	**v911e**
95% CI	*(1-16)*	*(4-21)*	*(2-13)*	*(1-5)*	*(6-18)*	
violence	60%	27%	42%	53%	42%	**v911g**
95% CI	*(45-75)*	*(17-37)*	*(30-53)*	*(38-67)*	*(30-53)*	
used two condoms at same time	5%	0%	0%	1%	0%	**v911h**
95% CI	*(3-7)*			*(0-2)*		
sex lasted too long	19%	3%	11%	31%	40%	**v911i**
95% CI	*(10-28)*	*(1-5)*	*(3-18)*	*(14-48)*	*(30-51)*	
large or disfigured penis	13%	6%	3%	7%	12%	**v911j**
95% CI	*(4-21)*	*(3-9)*	*(1-5)*	*(2-11)*	*(5-18)*	
Denominator (respondents who ever had condom breaking experience)	116	141	108	104	116	

Condom breaking experience in the last one month

	YGN	MDY	MYA	PTN	PYY	Variable name
had condom breaking experience in the last month	8%	5%	9%	3%	8%	**v912all**
95% CI	*(4-11)*	*(2-8)*	*(6-11)*	*(2-4)*	*(4-12)*	
Denominator (all)	399	390	371	405	414	

Condom breaking experience at last sex

had condom breaking experience at last sex	2%	0.4%	4%	2%	2%	**v913all**
95% CI	*(1-3)*	*(0-1)*	*(3-6)*	*(1-3)*	*(0-4)*	
Denominator (all)	399	390	371	405	414	

Table I5. Lubricant usage

ever used lubricants for anal sex	49%	87%	43%	52%	71%	**v914**
95% CI	*(41-57)*	*(82-92)*	*(37-48)*	*(46-59)*	*(66-76)*	
Denominator (all)	399	390	371	405	414	

Consistence use of lubricant in the last one month

Never	4%	14%	19%	10%	0.1%	**v915recod**
95% CI	*(0-8)*	*(6-22)*	*(12-25)*	*(2-19)*	*(0-0.3)*	
Sometimes	69%	30%	70%	74%	75%	
95% CI	*(59-79)*	*(20-39)*	*(63-77)*	*(66-83)*	*(67-83)*	
Always	27%	57%	11%	15%	24%	
95% CI	*(17-36)*	*(46-67)*	*(6-16)*	*(10-21)*	*(16-33)*	
Denominator (respondents who ever used lubricants for anal sex)	213	345	164	217	303	

Lubricant use at last anal sex

used lubricants at last anal sex	33%	67%	20%	33%	38%	**v917all**
95% CI	*(25-41)*	*(58-75)*	*(16-25)*	*(26-40)*	*(32-44)*	
Denominator (all)	399	390	371	405	414	

Lubricant alone without condom at last anal sex

	YGN	MDY	MYA	PTN	PYY	Variable name
used lubricants at last anal sex	13%	3%	3%	3%	10%	**v918all**
95% CI	*(8-19)*	*(1-5)*	*(1-4)*	*(2-5)*	*(6-15)*	
Denominator (all)	399	390	371	405	414	

Table I6. Sources of lubricants and type of lubricant at last anal sex

Places known as a source of lubricants (multiple responses allowed)

Pharmacy	45%	19%	15%	30%	17%	**v916a**
95% CI	*(33-56)*	*(13-26)*	*(10-21)*	*(22-38)*	*(12-22)*	
Store/shop	14%	4%	0%	9%	0.4%	**v916b**
95% CI	*(6-23)*	*(1-7)*		*(5-13)*	*(0-1)*	
Drop In Center	52%	72%	28%	84%	28%	**v916c**
95% CI	*(41-64)*	*(63-81)*	*(21-35)*	*(78-91)*	*(22-33)*	
Betel Shop	43%	0%	4%	19%	11%	**v916d**
95% CI	*(31-54)*		*(2-6)*	*(12-26)*	*(7-15)*	
Hospital/Clinic/STD team	14%	2%	13%	3%	22%	**v916e**
95% CI	*(7-21)*	*(0-4)*	*(8-18)*	*((-1)-7)*	*(14-29)*	
Karaoke/restaurant	0.6%	0%	0.0%	0%	0%	**v916f**
95% CI	*(0-1)*					
Inn/Hotel/Motel/Guesthouse	4%	0%	0%	0%	2%	**v916g**
95% CI	*(1-6)*				*(0-3)*	
Outreach worker/Health educator/ BHS	19%	50%	58%	31%	95%	**v916h**
95% CI	*(9-29)*	*(40-60)*	*(51-65)*	*(21-40)*	*(90-100)*	
Peer/Friend	12%	7%	38%	39%	24%	**v916i**
95% CI	*(7-17)*	*(1-13)*	*(30-46)*	*(29-49)*	*(17-31)*	
Other	0%	14%	1%	1%	2%	**v916j**
95% CI		*(6-22)*	*(0-2)*	*(0-2)*	*((-2)-5)*	

Denominator (respondents who ever used lubricants for anal sex)	210	345	164	221	303	

Used lubricant types (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
glycerin	9%	0%	0%	0%	0%	**v919a**
95% CI	*(6-12)*					
saliva	3%	0.7%	11%	0%	0%	**v919b**
95% CI	*((-1)-7)*	*(0-1)*	*(6-16)*			
Gel (ahphaw gel)	85%	99%	99%	100%	100%	**v919c**
95% CI	*(76-95)*	*(98-100)*	*(99-99)*	*(99-100)*		
body lotion/cosmetic oils	3%	0.2%	0.9%	0.4%	0%	**v919d**
95% CI	*((-1)-7)*	*(0-0.4)*	*(0.6-1.2)*	*(0-1)*		
Denominator (respondents who used lubricant at last anal sex)	139	274	80	136	141	

Used correct lubricant

correct lubricant with no bad lubricant*	31%	66%	20%	33%	35%	**v919corr_nobadlub**
95% CI	*(23-39)*	*(57-74)*	*(16-24)*	*(26-39)*	*(29-41)*	
Denominator (all)	399	390	371	405	414	

* using glycerin or gel but not body lotion/cosmetic oils

J. SEXUALLY TRANSMITTED INFECTIONS

Table J1. Knowledge about STIs

	YGN	MDY	MYA	PTN	PYY	Variable name
Aware of STDs	91%	100%	87%	96%	97%	**v1001**
95% CI	*(85-96)*	*(99-100)*	*(84-91)*	*(91-101)*	*(93-101)*	
Denominator (all)	399	390	371	405	414	

STI symptoms among men respondents are aware of(multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
Discharge from penis	78%	82%	57%	96%	92%	**v1002a**
95% CI	*(70-86)*	*(76-89)*	*(51-63)*	*(94-98)*	*(88-96)*	
Discharge from rectum	25%	22%	3%	5%	26%	**v1002b**
95% CI	*(16-34)*	*(13-30)*	*(1-6)*	*(2-7)*	*(21-31)*	
	YGN	MDY	MYA	PTN	PYY	Variable name
Bunning or painful urination	42%	42%	18%	42%	50%	**v1002c**
95% CI	*(33-50)*	*(33-50)*	*(13-23)*	*(34-49)*	*(45-55)*	
Pain during sex	18%	9%	1%	5%	16%	**v1002d**
95% CI	*(11-25)*	*(4-13)*	*(0-1)*	*(2-9)*	*(12-19)*	
Genital/anal ulcer	73%	50%	61%	67%	73%	**v1002e**
95% CI	*(64-81)*	*(42-59)*	*(55-67)*	*(60-74)*	*(68-78)*	
Swelling in groin	21%	7%	30%	9%	44%	**v1002f**
95% CI	*(14-29)*	*(4-10)*	*(25-35)*	*(6-12)*	*(39-50)*	
No symptom	1%	3%	0.6%	0%	2%	**v1002g**
95% CI	*(0-2)*	*((-2-)8)*	*(0-1)*		*(1-3)*	
Other	1%	0.02%	0.6%		1%	**v1002h**
95% CI	*(0-1)*	*(0-0.1)*	*(0-1)*		*(0-3)*	
Denominator (respondents who ever heard of STIs)	312	380	286	345	406	

Table J2. STI symptoms in the past 12 months

Had discharge from urethra in the last 12 months	7%	7%	5%	4%	3%	**v1003**
95% CI	*(3-11)*	*(3-11)*	*(2-7)*	*(2-6)*	*(1-4)*	
Had discharge from rectum in the last 12 months	5%	0.6%	0.7%	0.6%	0.1%	**v1004**
95% CI	*(0-11)*	*(0-1)*	*(0-2)*	*(0-1)*	*(0-0.3)*	
Had genital ulcer in the last 12 months	9%	7%	12%	5%	3%	**v1005**
95% CI	*(5-13)*	*(3-10)*	*(8-15)*	*(3-7)*	*(2-5)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Had urethral/rectal discharge or ulcer in the last 12 months	19%	12%	14%	8%	6%	disulc
95% CI	*(12-26)*	*(6-17)*	*(10-17)*	*(5-11)*	*(4-8)*	
Denominator (all)	399	390	371	405	414	

Table J3. Treatment seeking behavior

	YGN	MDY	MYA	PTN	PYY	Variable name
Sought treatment for discharge or ulcer		98%	67%	65%	77%	v1006
95% CI		*(98-98)*	*(53-80)*	*(48-80)*	*(71-86)*	
Denominator (respondents who had urethral/rectal discharge or ulcer in the last 12 months)	Can't run	39	48	39	23	
Respondents' choices for treatment (multiple responses allowed)						
Self-medication		46%	33%	18%		v1007a
95% CI		*(22-70)*	*(18-48)*	*(10-25)*		
Traditional medicine		1%	4%	0%		v1007b
95% CI		*(0.5-1)*	*(2-6)*			
Treatment at AIDS/STD team		5%	2%	1%		v1007c
95% CI		*((-13)-22)*	*(1-3)*	*(1-2)*		
Private hospital/clinic/GP		28%	10%	59%		v1007d
95% CI		*((-9)-66)*	*(8-12)*	*(4-114)*		
Public hospital/clinic		6%	4%	3%		v1007e
95% CI		*(4-8)*	*(3-6)*	*(2-4)*		
Clinics at NGOs		18%	50%	27%	38%	v1007f
95% CI		*(11-24)*	*(35-64)*	*((-64)-100)*	*(10-63)*	
Denominator (respondents who sought for treatment of STIs)	Can’t run	37	34	26	17	

Received correct treatment for STIs

	YGN	MDY	MYA	PTN	PYY	Variable name
Received correct STI treatment		52%	44%	58%	71%	**corrstitrt**
95% CI		*(26-77)*	*(28-61)*	*(42-73)*	*(63-80)*	
Denominator (respondents who had urethral/rectal discharge or ulcer in the last 12 months)	Can't run	39	48	39	25	

Period before seeking treatment among those seeking treatment

<= 7 days	90%		84%	88%	88%	**v1008cat**
95% CI	*(86-93)*		*(80-88)*	*(82-93)*	*(88-88)*	
8 to 14 days	10%		0%	3%	9%	
95% CI	*(7-14)*			*(1-4)*	*(9-9)*	
>= 15 days			11%	10%	3%	
95% CI			*(8-15)*	*(4-15)*	*(3-3)*	
>= 1 month			4%			
95% CI			*(3-5)*			
Denominator (respondents who sought for treatment of STIs)	37	Can't run	34	26	17	

K. ALCOHOL AND DRUG USE

Table K1. Alcohol usage and its frequency

	YGN	MDY	MYA	PTN	PYY	Variable name
ever had alcohol drink	69%	71%	87%	95%	72%	**v1101**
95% CI	*(63-76)*	*(63-80)*	*(84-90)*	*(92-98)*	*(67-76)*	
had alcoholic drink in the last 12 months	69%	53%	86%	94%	64%	**v1102all**
95% CI	*(61-76)*	*(44-62)*	*(83-89)*	*(91-97)*	*(59-69)*	
Denominator (all)	399	390	371	405	414	

Frequency of drinking alcohol

	YGN	MDY	MYA	PTN	PYY	Variable name
Low (never or < once a month)	40%	51%	35%	22%	58%	**v1103allrecod**
95% CI	*(32-47)*	*(42-60)*	*(31-40)*	*(16-28)*	*(52-64)*	
Medium (1-10 times a month)	50%	37%	46%	74%	36%	
95% CI	*(42-58)*	*(29-46)*	*(41-51)*	*(68-80)*	*(30-41)*	
High (nearly daily or daily)	11%	12%	19%	4%	6%	
95% CI	*(5-16)*	*(7-17)*	*(15-23)*	*(2-6)*	*(4-8)*	
Denominator (all)	399	390	371	405	414	

Table K2. Had Sex and condom usage under influence of alcohol

Experience of get drunk and had sex in the last 12 months

Had sex under alcohol	40%	35%	46%	45%	41%	**v1104all**
95% CI	*(33-48)*	*(27-42)*	*(41-51)*	*(39-52)*	*(35-47)*	
Denominator (all)	399	390	371	405	414	

Condom usage under influence of alcohol in the last 12 months

Never	36%	3%	9%	11%	23%	**v1105recod**
95% CI	*(25-46)*	*((-1)-6)*	*(4-14)*	*(7-16)*	*(15-31)*	
Sometimes	27%	20%	49%	49%	51%	
95% CI	*(18-37)*	*(12-29)*	*(41-58)*	*(39-59)*	*(41-61)*	
Always	37%	77%	42%	40%	26%	
95% CI	*(25-48)*	*(68-86)*	*(34-49)*	*(30-49)*	*(18-33)*	
Denominator (respondents who had sex under alcohol in the last 12 months)	153	124	176	183	165	

Table K3. Drug

ever used drug for non-medical purpose	7%	7%	6%	23%	0.7%	**v1106**
95% CI	*(3-10)*	*(3-12)*	*(4-8)*	*(16-29)*	*(0-1)*	
Denominator (all)	399	390	371	405	414	

Mode of drug use

	YGN	MDY	MYA	PTN	PYY	Variable name
Injecting method		51%	13%	1%		v1107
95% CI		(21-81)	(1-27)	(1-1)		
Non-injecting methods		44%	87%	99%		
95% CI		(14-74)	(73-99)	(99-99)		
Both		5%				
95% CI		*(0-10)*				
Denominator (respondents who ever used drugs)	Can't run	15	24	87	Can't run	

Injection practice

ever injected drugs for non-medical purposes	1%	4%	1%	0.2%	0.3%	evrinj
95% CI	*(0-2)*	*(0-8)*	*(0-2)*	*(0-1)*	*(0-1)*	
Denominator (all)	399	390	371	405	414	

Injected drugs in the last 12 months

ever injected drugs for non-medical purposes	0.1%	3%	1%	0%	0%	v1108all
95% CI	*(0-0.4)*	*(0-6)*	*(0-1)*			
Denominator (all)	399	390	371			

Table K4. Had sex and condom usage under influence of drugs

Sex under influence of drugs in the last 12 months

Had sex under influence of drugs	3%	2%	1%	8%	0.4%	v1110all
95% CI	*(0-6)*	*((-1)-5)*	*(0-2)*	*(3-12)*	*(0-1)*	
Denominator (all)	399	390	371	405	414	

Condom usage under influence of drugs in the last 12 months

Never			18%	5%		v1111recod
95% CI			*((-11)-44)*	*(5-5)*	*100%*	
Sometimes		10%	57%	76%		
95% CI		*((-14)-33)*	*(9-107)*	*(55-101)*		

	YGN	MDY	MYA	PTN	PYY	Variable name
Always		90%	25%	19%		
95% CI		*(67-114)*	*((-19-)70)*	*((-7)-40)*		
Denominator (respondents who had sex under influence of drugs)		4	4	32	1	

L. KNOWLEDGE OF HIV/AIDS

Table L1. Awareness of HIV/AIDS

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever received information on HIV or AIDS	99%	100%	98%	100%	99%	**v1201**
95% CI	*(97-100)*		*(96-100)*		*(99-100)*	
Denominator (all)	399	390	371	405	414	

Table L2. Sources of most information about HIV(multiple responses allowed)

Health provider(private/public)	67%	87%	64%	86%	97%	**v1202a**
95% CI	*(59-74)*	*(80-93)*	*(59-69)*	*(82-90)*	*(96-99)*	
Teacher/school official	4%	3%	8%	5%	5%	**v1202b**
95% CI	*(1-6)*	*(0-6)*	*(5-10)*	*(2-7)*	*(3-6)*	
Radio/TV/Magazine	15%	16%	25%	10%	14%	**v1202c**
95% CI	*(11-20)*	*(9-24)*	*(20-30)*	*(6-14)*	*(9-20)*	
IEC materials	14%	11%	30%	19%	26%	**v1202d**
95% CI	*(9-19)*	*(6-16)*	*(25-35)*	*(14-24)*	*(21-31)*	
Social media/internet	1%	4%	0%	0%	4%	**v1202e**
95% CI	*(0-2)*	*(1-7)*			*(3-5)*	
Relatives/Friends	49%	15%	37%	28%	27%	**v1202f**
95% CI	*(42-56)*	*(9-22)*	*(33-42)*	*(23-34)*	*(22-31)*	
Peers	25%	29%	6%	14%	18%	**v1202g**
95% CI	*(18-33)*	*(21-38)*	*(4-8)*	*(10-18)*	*(13-23)*	

Denominator (respondents who ever received info on HIV/AIDS)	393	390	365	404	413	

Table L3. Knowledge of HIV prevention and treatment

Comprehensive knowledge (GARPR)

	YGN	MDY	MYA	PTN	PYY	Variable name
Has comprehensive knowledge	30%	84%	48%	59%	82%	**garprknow**
95% CI	*(23-37)*	*(77-89)*	*(44-53)*	*(52-66)*	*(77-86)*	
Denominator (all)	399	390	371	405	414	

Correct responses to specific knowledge questions included in GARPR definition

Can reduce the risk with one uninfected partner	69%	98%	83%	96%	95%	**v1203**
95% CI	*(61-76)*	*(95-100)*	*(80-87)*	*(94-98)*	*(92-97)*	
Mosquitoes can't transmit HIV	69%	90%	65%	79%	95%	**v1204**
95% CI	*(61-77)*	*(85-95)*	*(60-70)*	*(71-86)*	*(93-98)*	
Can reduce the risk by using condoms every time	95%	99%	98%	95%	98%	**v1205**
95% CI	*(91-100)*	*(98-101)*	*(97-99)*	*(90-100)*	*(96-99)*	
Sharing food can't transmit HIV	91%	96%	88%	92%	98%	**v1206**
95% CI	*(88-95)*	*(93-99)*	*(84-91)*	*(89-95)*	*(97-99)*	
A health looking person can have HIV	90%	99%	90%	93%	92%	**v1208**
95% CI	*(84-96)*	*(98-100)*	*(87-93)*	*(88-98)*	*(88-95)*	
Denominator (all)	396	390	365	404	413	

Correct response to HIV knowledge related question

Can get HIV by injecting with other's used needle	97%	99%	99%	98%	94%	**v1207**
95% CI	*(94-99)*	*(98-100)*	*(98-100)*	*(96-99)*	*(91-96)*	
Denominator (all)	383	390	371	405	414	

Table L4. Awareness of treatment for HIV/AIDS

	YGN	MDY	MYA	PTN	PYY	Variable name
Has heard of treatment of HIV/AIDS	83%	88%	82%	77%	67%	v1209
95% CI	*(77-88)*	*(83-93)*	*(78-86)*	*(71-82)*	*(62-72)*	
Denominator (all)	397	390	366	396	414	

Table L5. Places known where an HIV can be done

Knows where to go for HIV testing	89%	99%	74%	98%	99%	v1210
95% CI	*(85-94)*	*(98-100)*	*(69-80)*	*(96-99)*	*(98-100)*	
Denominator (all)	399	390	371	405	413	

Places mentioned for HIV testing (multiple responses allowed)

AIDS/STD team	7%	45%	22%	16%	24%	v1211a
95% CI	*(3-11)*	*(37-54)*	*(18-27)*	*(12-19)*	*(19-29)*	
Private hospital/Clinic/ GP	19%	7%	14%	29%	21%	v1211b
95% CI	*(13-25)*	*(3-10)*	*(10-18)*	*(24-35)*	*(15-26)*	
Public hospital/clinic	55%	20%	28%	61%	38%	v1211c
95% CI	*(47-63)*	*(12-27)*	*(23-34)*	*(53-68)*	*(33-43)*	
Clinics at NGO	73%	88%	73%	87%	96%	v1211d
95% CI	*(66-80)*	*(80-95)*	*(66-81)*	*(83-91)*	*(94-99)*	
Denominator (respondents who knew where to go for HIV test)	362	384	278	398	409	

Table L6. HIV testing experience

Ever tested	60%	83%	49%	80%	77%	v1212
95% CI	*(52-68)*	*(75-91)*	*(43-55)*	*(75-85)*	*(73-81)*	
Tested in the last year	40%	64%	37%	63%	56%	tstlstyr
	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*(32-48)*	*(55-72)*	*(32-43)*	*(56-70)*	*(51-61)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Tested HIV and received results in the last year (GARPR)	39%	63%	36%	60%	55%	garprtest
95% CI	*(31-48)*	*(54-72)*	*(31-42)*	*(53-67)*	*(50-61)*	
Denominator (all)	399	390	371	405	414	

Table L7. Reasons for last HIV test (multiple responses allowed)

I want to know my HIV status	66%	75%	88%	91%	95%	v1215a
95% CI	*(56-77)*	*(67-82)*	*(82-93)*	*(88-95)*	*(92-98)*	
Urged by spouse or partner	3%	2%	1%	0.1%	2%	v1215b
95% CI	*(1-5)*	*((-1)-4)*	*(0-2)*	*(0-0.2)*	*((-1)-6)*	
Urged by friend	26%	7%	6%	5%	2%	v1215c
95% CI	*(15-36)*	*(4-11)*	*(1-12)*	*(2-7)*	*((-1)-5)*	
Recommended by doctor	5%	5%	0.4%	6%	2%	v1215e
95% CI	*(1-9)*	*((-1)-11)*	*(0-1)*	*(2-9)*	*(1-4)*	
For regular blood testing	3%	15%	16%	5%	0.1%	v1215f
95% CI	*(1-4)*	*(10-20)*	*(10-22)*	*(2-9)*	*(0-0.2)*	
Forced by employer	0.8%	0.5%	0%	0%	0%	v1215g
95% CI	*(0-1)*	*(0-1)*				
Other	0%	0%	0.4%	1%	1%	v1215h
95% CI			*(0-1)*	*(0-2)*	*((-2)-5)*	
Denominator (respondent who ever tested for HIV)	240	343	181	319	303	

Table L8. Place of last HIV test

Public	14%	12%	21%	16%	13%	v1216recod

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*(7-21)*	*(5-19)*	*(13-29)*	*(10-23)*	*(8-18)*	
Private	8%	4%	3%	8%	4%	
95% CI	*(3-13)*	*(1-7)*	*((-1)-6)*	*(5-12)*	*(1-8)*	
Clinic at NGO	78%	84%	76%	76%	82%	
95% CI	*(69-86)*	*(77-91)*	*(67-86)*	*(68-83)*	*(76-88)*	
Denominator (respondent who ever tested for HIV)	240	343	181	319	303	

Table L9. HIV test results

Received the result of last HIV test	96%	99%	98%	96%	99%	**v1217**
95% CI	*(92-100)*	*(98-100)*	*(97-100)*	*(91-101)*	*(98-100)*	
Denominator (respondent who ever tested for HIV)	240	343	181	319	303	

Shared the result with other

Shared result	65%	70%	67%	70%	35%	**v1218**
95% CI	*(54-75)*	*(63-77)*	*(60-75)*	*(63-78)*	*(28-42)*	
Denominator (respondent who received the result of last HIV test)	231	338	177	314	301	

With whom respondents shared the result (multiple responses allowed)

Spouse/regular partner	15%	16%	21%	16%	20%	**v1219a**
95% CI	*(9-22)*	*(8-23)*	*(13-28)*	*(9-22)*	*(2-38)*	
Friend	45%	77%	72%	75%	48%	**v1219b**
95% CI	*(32-58)*	*(70-84)*	*(62-82)*	*(67-83)*	*(29-67)*	
Family member	50%	9%	16%	22%	27%	**v1219c**
95% CI	*(35-64)*	*(5-14)*	*(10-22)*	*(15-30)*	*(15-39)*	
Health staff	2%	0.3%	20%	13%	23%	**v1219d**
95% CI	*(0-4)*	*(0-1)*	*(9-30)*	*(6-19)*	*(8-38)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Colleagues	7%	1%	4%	4%	4%	**v1219e**
95% CI	*(2-11)*	*(0-2)*	*(1-8)*	*(0-9)*	*((-1)-10)*	
Employer	2%	0%	1%	0%	0.4%	**v1219f**
95% CI	*(0-4)*		*(0-3)*		*(0-0.4)*	
Peers	2%	13%	0.5%	0%	0%	**v1219g**
95% CI	*((-1)-5)*	*(6-19)*	*(0-1)*			
Denominator (respondents who shared their last HIV test result)	142	217	121	222	94	

Table L10. Know own HIV status (result of last HIV test)

HIV positive	22%	7%	10%	5%	5%	**v1220recod**
95% CI	*(13-32)*	*(3-12)*	*(6-14)*	*(2-7)*	*(3-7)*	
Denominator (respondent who received the result of last HIV test)	225	330	175	305	291	

Table L11. Access to HIV treatment/care and support

Receving treatment	100%	100%	85%	78%	81%	**v1221**
95% CI			*(72-98)*	*(38-121)*	*(61-99)*	
Denominator (respondent who knows their positive status)	49	30	23	25	20	

Places mentioned for HIV treatment services (multiple responses allowed)

AIDS/STD team	5%	38%	7%	0%	0%	**v1222a**
95% CI	*(2-8)*	*(13-63)*	*(1-13)*			
Private hospital/Clinic/ GP	4%	0.9%		0%	0%	**v1222b**
95% CI	*((-4)-11)*	*(0.6-1)*				
Public hospital/clinic	24%	49%	5%	0%	96%	**v1222c**
95% CI	*(9-39)*	*(22-76)*	*((-2)-12)*		*(96-96)*	
Clinics at NGOs	71%	11%	88%	100%	4%	**v1222d**
95% CI	*(46-95)*	*((-6)-29)*	*(74-99)*		*(4-4)*	

Denominator (respondents receiving HIV care and support)	48	30	20	18	17	

Table L12. Testing experience of last regular partner

	YGN	MDY	MYA	PTN	PYY	Variable name
Never tested	33%	14%	7%	13%	47%	**v1223**
95% CI	*(25-40)*	*(7-20)*	*(4-9)*	*(9-16)*	*(41-52)*	
Ever tested	15%	33%	24%	22%	18%	
95% CI	*(10-20)*	*(25-41)*	*(20-28)*	*(16-28)*	*(12-24)*	
Have no regular partner/spouse	29%	28%	0%	0.1%	4%	
95% CI	*(21-37)*	*(21-35)*		*(0-0.2)*	*(3-6)*	
Don't know	23%	26%	69%	65%	31%	
95% CI	*(17-29)*	*(18-34)*	*(64-74)*	*(59-72)*	*(27-36)*	
Denominator (all)	398	390	371	405	414	

Table L13. Know the status of last regular partner

Negative	80%	94%	95%	83%	85%	**v1224**
95% CI	*(70-90)*	*(89-100)*	*(91-98)*	*(63-103)*	*(80-91)*	
Positive	8%	5%	2%	0%	0%	
95% CI	*(0-17)*	*(0-11)*	*((-1)-5)*			
Have not discussed this	9%	0.3%	2%	2%	0%	
95% CI	*(4-14)*	*(0-1)*	*(0-4)*	*(1-3)*		
Don't know	3%	0.1%	1.2%	15%	15%	
	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*((-3)-9)*	*(0-0.1)*	*(0-3)*	*((-5)-35)*	*(9-20)*	
Denominator (respondents who know the status of their last regular partner)	83	134	95	89	46	

M.STIGMA,DISCRIMINATION AND VIOLENCE

Table M1. Pretended not to be MSM in the past 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	78%	69%	38%	41%	56%	**v1301**
95% CI	*(72-84)*	*(61-78)*	*(33-43)*	*(35-48)*	*(51-60)*	
Sometimes	12%	4%	36%	33%	22%	
95% CI	*(8-16)*	*(2-6)*	*(31-41)*	*(26-39)*	*(18-25)*	
Often	3%	13%	16%	7%	14%	
95% CI	*(1-5)*	*(7-20)*	*(13-20)*	*(3-12)*	*(11-18)*	
Always	6%	13%	10%	19%	8%	
95% CI	*(2-11)*	*(7-20)*	*(7-12)*	*(15-23)*	*(6-11)*	
Denominator (all)	390	390	371	405	413	

Table M2. Lost a job or career opportunity in the past 12 months

Never	91%	99%	99%	99%	98%	**v1302**
95% CI	*(85-97)*	*(99-100)*	*(98-100)*	*(98-100)*	*(97-100)*	
Sometimes	9%	0.4%	1%	1.1%	2%	
95% CI	*(3-15)*	*(0-1)*	*(0-2)*	*(0-2)*	*(0-3)*	
Often	0%	0.1%	0%	0.3%	0%	
95% CI		*(0-0.4)*		*(0-1)*		
Always	0%	0%	0%	0%	0%	
95% CI						
Denominator (all)	389	390	371	405	413	

Table M3. Avoided seeking health care in the last 12 months

Never	94%	87%	76%	62%	69%	**v1303**
95% CI	*(91-96)*	*(83-91)*	*(72-80)*	*(56-68)*	*(65-74)*	
Sometimes	6%	10%	16%	23%	24%	
95% CI	*(3-8)*	*(6-14)*	*(13-20)*	*(18-28)*	*(20-28)*	
Often	0.1%	3%	6%	11%	6%	

N. EXPOSURE TO INTERVENTION

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*(0-0.4)*	*(1-4)*	*(4-8)*	*(6-16)*	*(4-8)*	
Always	0.4%	0.3%	1%	4%	0.7%	
95% CI	*(0-1)*	*(0-1)*	*(0-2)*	*(2-5)*	*(0-1)*	
Denominator (all)	393	390	371	405	414	

Table M4. Rejected by the family or relatives in the last 12 months

Never	84%	90%	92%	95%	91%	**v1304**
95% CI	*(78-89)*	*(86-95)*	*(90-94)*	*(94-97)*	*(88-94)*	
Sometimes	14%	6%	5%	3%	8%	
95% CI	*(9-18)*	*(1-10)*	*(3-7)*	*(1-4)*	*(5-10)*	
Often	2%	2%	2%	0.6%	1%	
95% CI	*(0-3)*	*(1-3)*	*(1-3)*	*(0-1)*	*(0-2)*	
Always	1%	2%	0.7%	1%	0.5%	
95% CI	*(0-2)*	*(0-3)*	*(0-1)*	*(0-2)*	*(0-1)*	
Denominator (all)	397	390	371	405	414	

Table M5. Hit or beaten for being MSM in the last 12 months

Never	83%	94%	92%	85%	80%	**v1305**
95% CI	*(77-88)*	*(91-97)*	*(89-95)*	*(80-89)*	*(76-85)*	
Sometimes	15%	5%	6%	15%	19%	
95% CI	*(10-21)*	*(3-8)*	*(4-9)*	*(10-19)*	*(15-24)*	
Often	2%	0.5%	1%	0.3%	0.4%	
95% CI	*(0-3)*	*(0-1)*	*(0-2)*	*(0-1)*	*(0-1)*	
Always	0.3%	0%	0%	0%	0%	
95% CI	*(0-1)*					
Denominator (all)	393	390	371	405	414	

Table M6. Forced to have sex against the will in the last 12 months

Never	80%	93%	79%	82%	56%	**v1306**
95% CI	*(74-85)*	*(90-96)*	*(75-83)*	*(77-87)*	*(50-62)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Sometimes	20%	7%	17%	16%	42%	
95% CI	*(14-25)*	*(4-10)*	*(14-21)*	*(12-20)*	*(36-48)*	
Often	0.5%	0.1%	4%	2%	2%	
95% CI	*(0-1)*	*(0-0.2)*	*(2-5)*	*(0-5)*	*(1-3)*	
Always	0%	0%	0.3%	0%	0%	
95% CI			*(0-1)*			
Denominator (all)	397	390	371	405	413	

Table M7. harassed by police or other authorities in the last 12 months

Never	79%	71%	93%	93%	83%	**v1307**
95% CI	*(74-85)*	*(63-79)*	*(91-96)*	*(89-97)*	*(79-87)*	
Sometimes	17%	8%	6%	7%	16%	
95% CI	*(11-22)*	*(4-12)*	*(4-8)*	*(3-11)*	*(12-19)*	
Often	3%	11%	0.4%	0%	1%	
95% CI	*(0-5)*	*(5-17)*	*(0-1)*		*(0-3)*	
Always	1%	9%	0%	0%	0.1%	
95% CI	*(0-2)*	*(4-15)*			*(0-0.3)*	
Denominator (all)	399	390	371	405	414	

N. EXPOSURE TO INTERVENTION

Table N1. Service utilization

	YGN	MDY	MYA	PTN	PYY	Variable name
Received condoms in the last 12 months by outreach staff	57%	81%	62%	76%	93%	**v1401**
95% CI	*(49-66)*	*(73-88)*	*(56-67)*	*(70-82)*	*(89-97)*	
Received condoms in the last 12 months and knows a place to go for an HIV test (GARPR)	54%	80%	54%	76%	93%	**garprprev**
95% CI	*(46-63)*	*(73-87)*	*(48-60)*	*(70-82)*	*(89-97)*	
Received lubricant in the last 12 months by outreach workers	45%	71%	48%	44%	81%	**v1402**
95% CI	*(35-54)*	*(63-79)*	*(42-54)*	*(37-52)*	*(76-86)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Received an HIV test from "PSI" top center during Jan to March 2015	15%	25%	14%	11%	12%	**v1403**
95% CI	*(9-20)*	*(18-33)*	*(10-18)*	*(6-16)*	*(8-15)*	
Visited "PSI" top center during Jan to March 2015	24%	43%	34%	29%	59%	**v1404**
95% CI	*(17-30)*	*(35-52)*	*(27-41)*	*(22-35)*	*(54-65)*	
Received a jade pendent after Thingyan 2015	1%	9%	13%	17%	24%	**v1405**
95% CI	*(0-2)*	*(4-15)*	*(10-17)*	*(11-23)*	*(17-30)*	
Denominator (all)	399	390	371	405	414	

O. BLOOD TEST RESULTS

Table O1. HIV prevalence

	YGN	MDY	MYA	PTN	PYY	Variable name
HIV positive	27%	22%	6%	7%	6%	**v1501recod**
95% CI	*(18-35)*	*(14-30)*	*(4-9)*	*(4-9)*	*(4-9)*	
Denominator (all)	399	390	371	405	414	