Myanmar Integrated Biological and Behavioural Surveillance Survey
&
Population Size Estimates among Female Sex Workers (FSW)

2015

National AIDS Program
Ministry of Health and Sports
Myanmar

Printed Jan 2019

Acknowledgements

This report is the result of a major collaborative effort of many institutions, organizations and individuals without whose contributions the data presented in this document could not have been collected.

We would like to express our appreciation to H.E. Dr Myint Htwe, Union Minister, Ministry of Health and Sports, Myanmar for his commitment and support in strengthening of HIV surveillance system in the country.

We are also grateful for the encouragement and guidance of Dr Thar Htun Kyaw Director General, Permanent Secretary, and Dr Thandar Lwin, Deputy Director General, Department of Public Health.

The leadership and oversight of Dr San Hone, Deputy Director, NAP, to materialize this report is gratefully acknowledged. Sincere thanks and appreciation go to a large number of individuals for their contributions: Dr Min Yu Aung, Assistant Director, NAP Shan-South, as a Principal Investigator, and Dr Nang Seng Noon Kham, Deputy Director, Public Health, Shan (North), who directed the whole survey in a competent and efficient manner in close collaboration with respective NAP Regional Officers, Team Leaders and Medical Officers in survey sites.

Special thanks go to the Country Directors and responsible parties of UNAIDS Myanmar, WHO Myanmar, Centre for Disease Control, FHI 360 Myanmar and PSI Myanmar who, together with the Global Fund, PEPFAR and USAID supported the realization of this survey.

Our gratitude also goes to Ms Virginia Loo and Ms Lisa Johnston who assisted with the analysis of data and the writing of this comprehensive report. They also provided valuable technical support during the survey.

We also wish to gratefully acknowledge all of the government institutions and NGOs working on HIV prevention for sex workers, the FSW networks and key population members who provided data and invaluable support to this survey. Above all we would like to thank the many persons who took part in the survey and devoted their time to providing answers to questions.

Finally, thanks and appreciations are also extended to Myanmar MOHS-Department Medical Research, Ethics Review Committee for its considerate endorsement and approval.

Dr.Htun Nyunt Oo
Program Manager
National AIDS Program
Department of Public Health
Ministry of Health and Sports

Executive Summary

This report shares results of the 2015 integrated biological and behavioural survey (IBBS) of female sex workers (FSW) conducted in five sites in Myanmar: Yangon, Mandalay, Monywa, Pathein, and Pyay. This survey employed respondent driven sampling (RDS), a chain referral method of recruiting respondents designed for use with hard-to-reach target populations which cannot be surveyed using conventional sampling methods. The RDS method has been used successfully to sample FSW, men who have sex with men (MSM), and people who inject drugs PWID) groups in Myanmar.

The objectives of the survey were to collect data which can be used to track the HIV epidemic among FSW and guide the response in terms of providing prevention, care and treatment services for this population. Key measures of the survey included HIV seroprevalence, key risk behavior data, service utilization, experience with stigma and discrimination, and estimates of population size. The eligibility criteria for the survey were women aged 15-49 years old, currently living or working in the survey city, and who sold sex for cash or kind in the last 12 months.

Respondents were categorized into three main typologies according to how they solicited clients: visible – those who solicited openly from venues such as brothels or street corners; semi-visible – those who met clients while working in entertainment establishments; hidden – those who met clients via brokers, referrals, or through advertisements, virtual solicitation sites, etc. The composition of the sample varied by survey site with respect to typology. The proportion of visible FSW ranged from 23-51% across the five townships. Overall, hidden FSW comprised the smallest group of respondents.

The median age of FSW respondents ranged from 28-30 years old across survey sites. The proportion of younger FSW (aged < 25 years) was one third or less in all samples. The median age at first sex work was 21-23 years old; which was 2-4 years older than the median age of sexual debut. In all sites, except Monywa, more than 90% of respondents reported sex work as their main source of income. In Monywa, less than half of the respondents relied primarily on sex work income. The median monthly income of FSW in the sample was 150,000-200,000 kyats. Together these data suggest that the sample captured a diverse network of true FSW, i.e., those who were engaged in sex work on a regular basis, except for in Monywa. Findings in Monywa must consider the large proportion of respondents who engaged in sex work on a part time basis.

The HIV prevalence among FSW in Yangon was highest at 25%, compared to 14% in Mandalay, and 11% in Pathein and Pyay. In Monywa, FSW HIV prevalence was 5%, which was consistent with fewer respondents being dependent on sex work as a primary source of income.

Current levels of risk behavior varied across sites. The median number of clients in a month was 5 in Mandalay compared to 25 in Pyay and 60 in Pathein. Always using a condom with clients was highest in Pyay (85%) compared to only 36% in Mandalay. Consistent condom use appeared correlated to ‘always having a

condom available when wanted or needed.' For example, 77% of FSW in Pyay reported always having condoms available, but only 37% of FSW in Mandalay reported the same.

With respect to HIV-related knowledge and service utilization, more than three quarters of all respondents were aware of a treatment for HIV and AIDS, but less than two-thirds had comprehensive knowledge of modes of HIV transmission and methods of prevention. Prevention coverage (in terms of receiving condoms through outreach in the last 12 months and knowing a place for testing) was highest (>90%) in Pathein and Pyay, moderately high in large cities such as Yangon (65%) and Mandalay (76%), and lowest in Monywa (37%). The proportion of FSW respondents who had been tested for HIV in the last year and received their result, was about 40% in Yangon and Pathein, 60% in Mandalay, and 74% in Pyay. In Monywa, only 18% of FSW respondents had been tested for HIV in the last year and received their result.

Through a process of triangulating multiple methods and review by local stakeholders, the consensus population size estimates (PSEs) for FSW in each site were obtained. Based on the survey site specific PSEs, the national FSW PSE was defined in the large PSE workshop with all the stakeholders using the township scoring method. The final calculated consensus on national FSW PSE was estimated at 66,000.

The PSEs, together with the results of the survey, which show large numbers of FSW in metropolitan areas and higher HIV prevalence, underscore the importance of efforts to increase moderate levels of service coverage in Yangon and Mandalay. To the extent that the survey sample in Pathein and Pyay represent the overall community of FSW in the township, high client volume appears accompanied by high levels of condom use and prevention service availability, which may have helped to contain HIV prevalence at moderate levels. In Monywa, the part-time nature of sex work engaged by half of the sample is likely to have contributed to low levels of HIV prevalence despite low prevention service coverage.

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 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

Table of Contents

List of Tables

List of Figures

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 for which the methods and logistics have been refined over time and adapted 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 was 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 FSW 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 FSW IBBS included biological females between the ages of 15-49 years who have been paid for sex in cash or kind in the last 12 months and who were currently living[1] or working 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

[1] 'Currently living in the township' was operationally defined as living in the township as about 1 year.

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 FSW 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 2008 FSW BSS. Annex 2 provides more characteristics of each survey site.

D. Sample size

The target sample size for each site was 400 eligible participants, completing both biological and behavioural components of the survey. Sample size calculations were designed to measure the proportion of FSW who reported condom use at last sex with a client with a maximum standard error of 0.05. Local stakeholders assessed a sample size of 400 as feasible and this would afford precise estimates for most critical variables. For example, to estimate last time condom use at 70% and a maximum standard error of 0.05 with conservative design effect of 4, a sample size of 336 is needed

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 conduct advocacy meetings to prepare the FSW community, program partners, and local authorities about the survey.

Some important findings were that network sizes were large enough to enable successful RDS in all selected sites (medium network size varied from 10 to 48) and that required sample sizes could be achieved. High socialization among groups (45-84%) also was shown. Formative assessment also indicated very high participation could be expected in the actual survey for both the interview (85-96%) and blood test (91-100%) with the best time of day for data collection in the morning/afternoon (96-100%), and that the preferred incentive was money (58-95%), varying from 3000 to 5000 Myanmar kyats (MMK). Moreover, formative assessment identified key informants who could provide relevant information for survey planning and implementation.

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 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:

1301. How many women do you know who exchanged sex for money or gifts in the past 12 months who you know and who know you?

1302. How many of those live in this town?
1303. How many of those have you seen in the past one month?
1304. How many of those were >15 years old

The question the survey intended to use as the measure of network size was 1304. 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 1303 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 1303). 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.[2]

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[3] 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.

[2] 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

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

C. Incentives

Respondents received 5000 MMK for completion of the survey and a secondary incentive of 1500 MMK for each recruit who completed the survey. This amount was based on on results of the formative assessment and discussion 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 FSW 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 National AIDS Programme (NAP) survey managers. Throughout 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 by 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

Survey fieldwork began in mid-May 2015 in all sites and varied in duration to achieve the desired sample size from each site. The shortest period of recruitment took place in Mandalay and Monywa (seven weeks), and the longest recruitment period was in Pathein (ten 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 sex worker type (street based/entertainment establishment based/other), contact with the NGO program, and location of their point of solicitation within the township. 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.

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	1	6
Mandalay	5	2	7
Monywa	4	3	7
Pathein	5	1	6
Pyay	5	0	5
All sites:			31

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 participated in the survey, and meet the eligibility criteria of the survey. All recruits underwent screening upon arrival at the RDS center 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.

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. Instructions reviewed with each participant included reviewing the eligibility criteria of who should be given a coupon, 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 in the physical coupon 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 to identify potential problems in recruitment.

6. Population size estimation methods

The population sizes of FSW were estimated using five methods, four of which dependent on survey data: 1) the unique object multiplier; 2) the service multiplier method[4]; 3) the successive sampling size (SS-PSE) method[5]; 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 methods 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 FSW 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

[4] 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.

[5] 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

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 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 10% of those who enrolled were found to be ineligible and a similar percentage of enrollees refused to participate at some point during the process. The primary reason for ineligibility was being younger than age 15.

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

Site	# of Seeds	# Coupon Distributed	# Enrolled	# ineligible	# Refused	Total Enrolled*	Total Fully Participated*
Yangon	6	954	403	10	0	409	399
Mandalay	7	933	388	8	6	395	381
Monywa	7	963	408	11	8	415	396
Pathein	6	1035	432	36	1	438	401
Pyay	5	1047	531	57	60	536	419
	31	**4932**	**2162**	**122**	**75**	**2193**	**1996**

*Including seed

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 FSW community. The assessment used a scale of 0-3, where a rating of 3 indicated stakeholders suspected strong bias in survey participation.

Table 3 shows the result of this assessment and how each bias may have affected recruitment in each survey site. For example, the first type of selection bias considered was whether FSW who knew they were HIV positive were likely to decline invitations to participate in the survey. This may occur when potential respondents perceive the survey to be a means to get an HIV test and those who already know they are HIV positive have no reason to seek testing. Stakeholders in Pathein and Pyay perceived this to be a moderate issue, rating the likelihood of this bias as 2. Moderate ratings suggest that HIV prevalence may be underestimated in these sites and should be interpreted with caution.

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

Scale of 0-3; 3 indicates a severe bias

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

In a similar vein, the second bias described looks at whether 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 might be an underestimate of 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, the Yangon, Monywa, and Pathein surveys were likely to have over-represented individuals who had been reached by a Population Services International (PSI) Targeted Outreach Program (TOP) Center to a moderate degree. 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. Individuals who are present in a given geographic area but who do not maintain social ties to the network sampled, will be unrepresented. A key assumption of RDS is that there is one primary social network in which the target population is connected. Except in Monywa, local stakeholders did not perceive that smaller, more isolated networks were missed given the methods used to seed recruitment chains and conduct actual recruitment (i.e., the fourth bias listed in Table 3). The perception of the FSW network being more fragmented in Monywa is consistent with other findings regarding the type of FSW included in the Monywa survey compared to other sites.

In Yangon stakeholders felt that the survey may not have been 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, a review of residential areas reported by respondents in FSW showed 23 different townships within Yangon were given, including areas far from the metro center. Sampling from only a portion of the city was also perceived to be an 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 FSW 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.[6] 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: Age (<25, >=25) in Mandalay and prevention coverage in Monywa. Examples of variables which did not reach convergence include: Reason for moving from another township (most sites); sex work typology in Yangon and Mandalay; HIV prevalence in Yangon; STI symptom prevalence in Pathein; Proportion with a regular partner in Yangon; Consistent condom use with clients in Mandalay; Prevention coverage in Yangon and Mandalay; HIV testing coverage in Mandalay, and Pathein. Annex 4 shows examples of recruitment chains by sex work typology, HIV prevalence, and prevention coverage in survey sites where estimates failed to converge.

With respect to reported network size used as the basis for adjusted estimates, particular problems were identified for the sample in Pyay. Network sizes reported in Pyay did not provide a typical distribution and could not be adjusted fully using the imputed visibility method. For this reason, adjusted population estimates presented for Pyay may not adequately account for the dependency between respondents in the sample and may not be reliable.

The interpretation of results should consider this qualitative assessment of potential biases and problems in recruitment in terms of the advisability of generalizing the survey results to the broader population of FSW in these cities.

IV. Key Results

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

1. Sex work typology

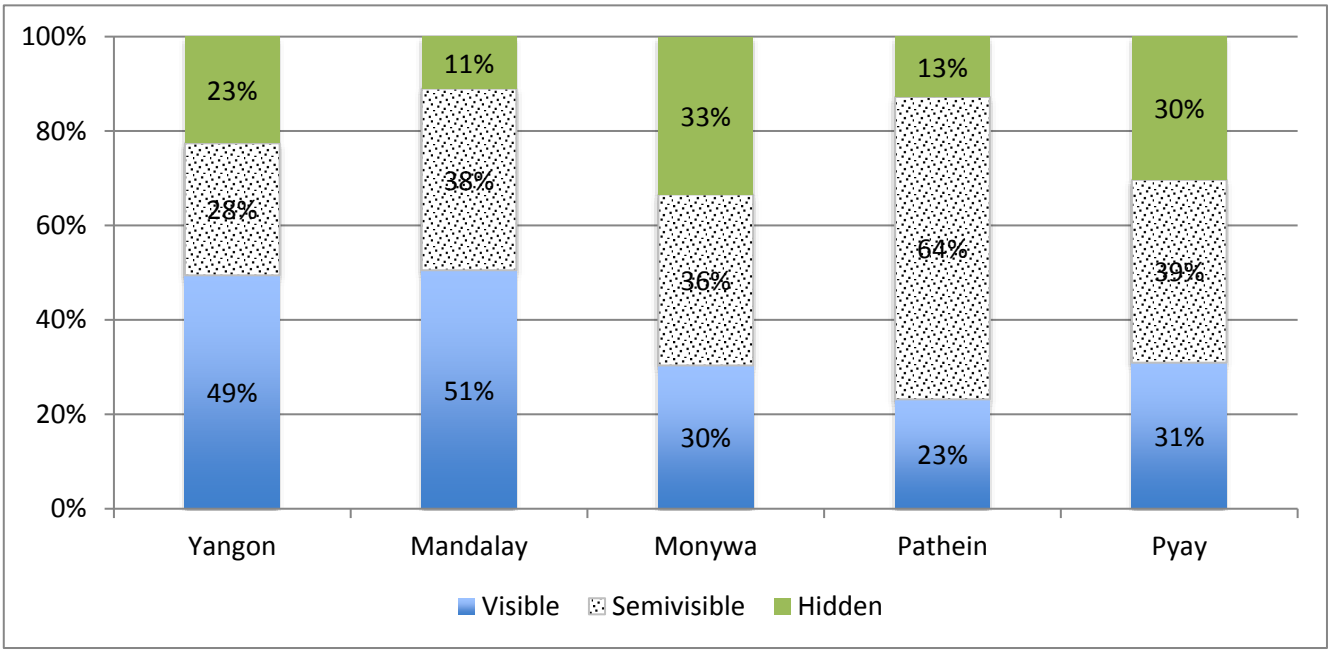
Differences in sex work settings have important implications for risk and vulnerability of FSW to HIV. These differences include the power with which FSW can negotiate condom use, have control over the amount of money they earn and keep from clients, and the degree of their mobility and access to HIV-related services. We categorized FSW respondents into three typologies determined by their primary place of solicitation: 'Visible' sex workers as those who solicited from public venues such as streets, parks, railway stations, etc.; 'Semi-visible' sex workers as those who operated from fixed establishments such as a brothel, massage

[6] 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.

parlor, nightclub, restaurant/tea shop, karaoke bar or guesthouse; and 'Hidden' sex workers as those who operated from private homes and were contacted through brokers or by phone and internet.

According to these categories, a different mix of sex work typologies was found in each site. In general, 'hidden' or non-venue based sex workers comprised the smallest proportion of the sample. In the larger metropolitan areas, Yangon and Mandalay[7], visible sex workers made up the largest proportion of the sample, but in the smaller cities, Monywa, Pathein, and Pyay, semi-visible or establishment based sex work was a more common mode of operation.

Figure 1: Proportion of FSW respondents by sex work typology



Sample N	Yangon	Mandalay	Monywa	Pathein	Pyay
Hidden	82	36	137	44	126
Semi-visible	111	154	149	272	162
Visible	206	191	108	85	131
Total	399	381	394	401	419

Denominator: All respondents

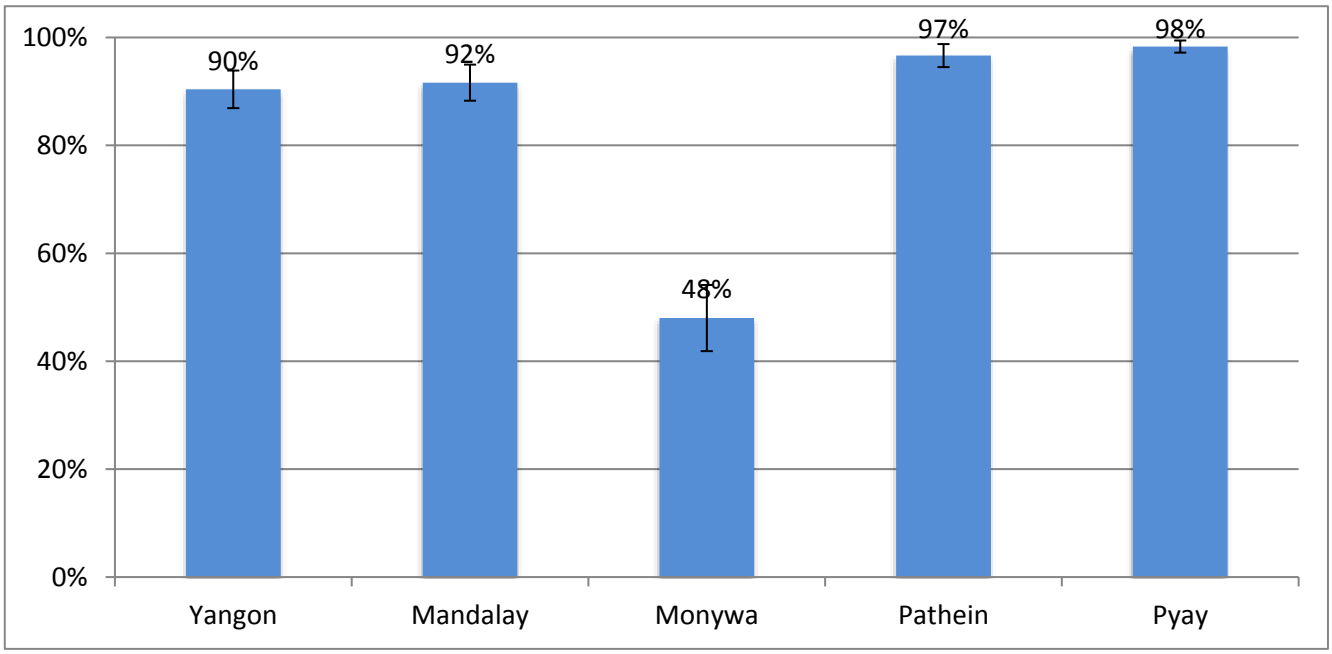
These categories have programmatic implications as visible sex workers operate more autonomously and can easily be accessed by outreach services. However, those who are semi-visible may not always be open about doing sex work and may be reluctant to be seen seeking services for FSW. In other situations, owners of the establishments where they work may also discourage sex workers to engage with the programmes for fear of attracting local authorities who may raid their establishments. For these reasons, understanding differences in risk behavior and issues of vulnerability by sex work typology may be crucial in designing appropriate HIV services and conducting advocacy with local authorities and gate keepers.

Given that some FSW do not engage in sex work as a full-time occupation, we asked respondents to describe their main source of income. In the two metropolitan areas, Yangon and Mandalay, about 90% of

[7] As mentioned earlier, estimates for this variable in Yangon in Mandalay did not converge and may not be reliable.

respondents reported sex work as their main source of income. The proportion was higher in Pathein and Pyay, where nearly all (97-98%) of respondents depended on sex work for their primary source of income. In Monywa a much smaller proportion depended mainly on sex work, only 48% said sex work was their main source of income. About 65% of FSW respondents in Monywa said they engaged in manual labor/unskilled work compared to less than 15% in Yangon, Mandalay, and Pathein, and 30% in Pyay. This difference in sample composition may reflect who was available and willing to participate in the survey, or it could reflect the actual sex work dynamics in Monywa.

Figure 2: Proportion of FSW respondents for whom sex work is their main source of income



Denominator: All respondents

In Monywa, the proportion of women who did not depend on sex work as their main source of income did not vary according to sex work typology. However, in Yangon and Mandalay, a slightly lower proportion (77% and 82%) of FSW respondents who solicited clients from entertainment establishments, i.e., semi-visible sex workers, reported sex work as their main source of income compared with those who were visible or hidden sex workers (>90%). This is consistent with the idea that women who work in entertainment establishments often earn wages for working as waitresses or other types of attendants and selling sex may be done more informally after work hours or on an as needed basis.

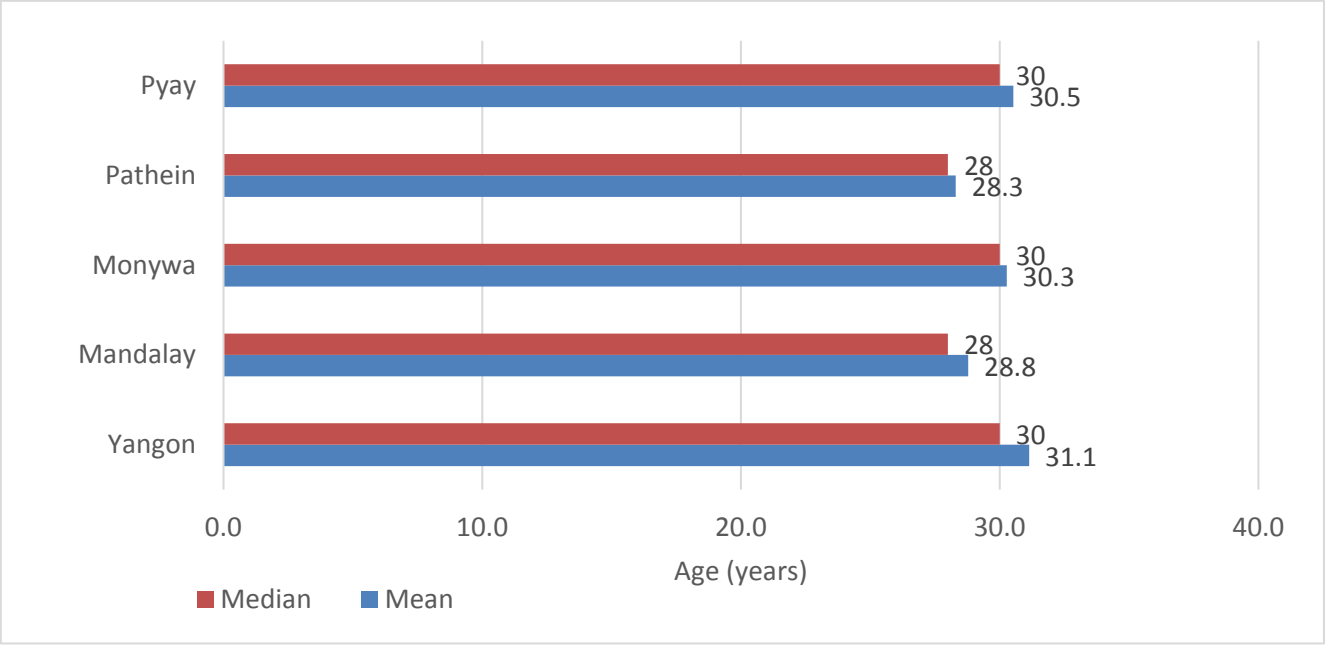
2. Age, household composition, and marital status

The eligibility criteria limited FSW to the ages of 15-49 years, which is likely to capture FSW who are most active in terms of having the largest volume of clients. The mean and median age of FSW were similar across sites.

Services for FSW are particularly concerned with reaching younger FSW, due to their increased biological vulnerability to HIV and the importance of starting effective prevention services during the early phase of exposure. We observed greater variation across townships when we looked at the proportion of FSW under age 25. In Mandalay[8] and Pathein about one third of respondents were in the younger age group, compared to about one fifth in Yangon and Pyay. These differences were statistically significant as indicated by non-overlapping confidence intervals.

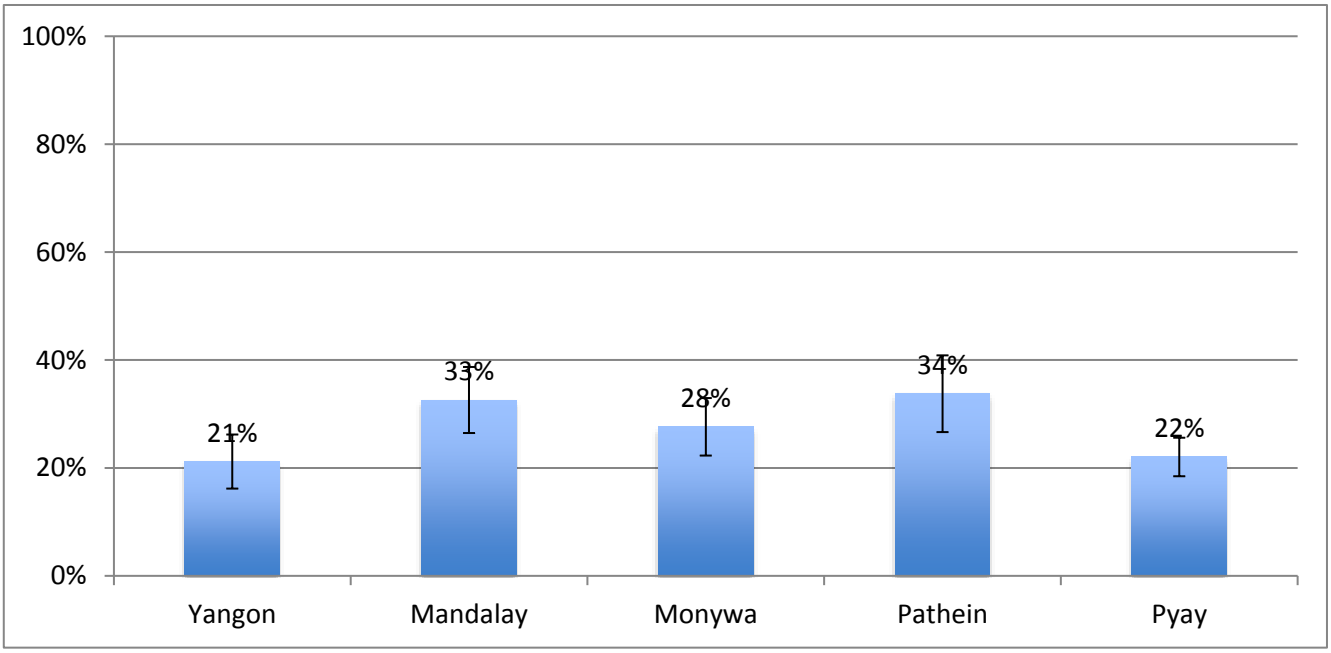
Figure 3: Mean and median age of FSW respondents

[8] Bottlenecks were found in the estimates for this variable in Mandalay and may not be reliable.



Denominator: All respondents

Figure 4: Proportion of FSW respondents who are less than age 25



Denominator: All respondents

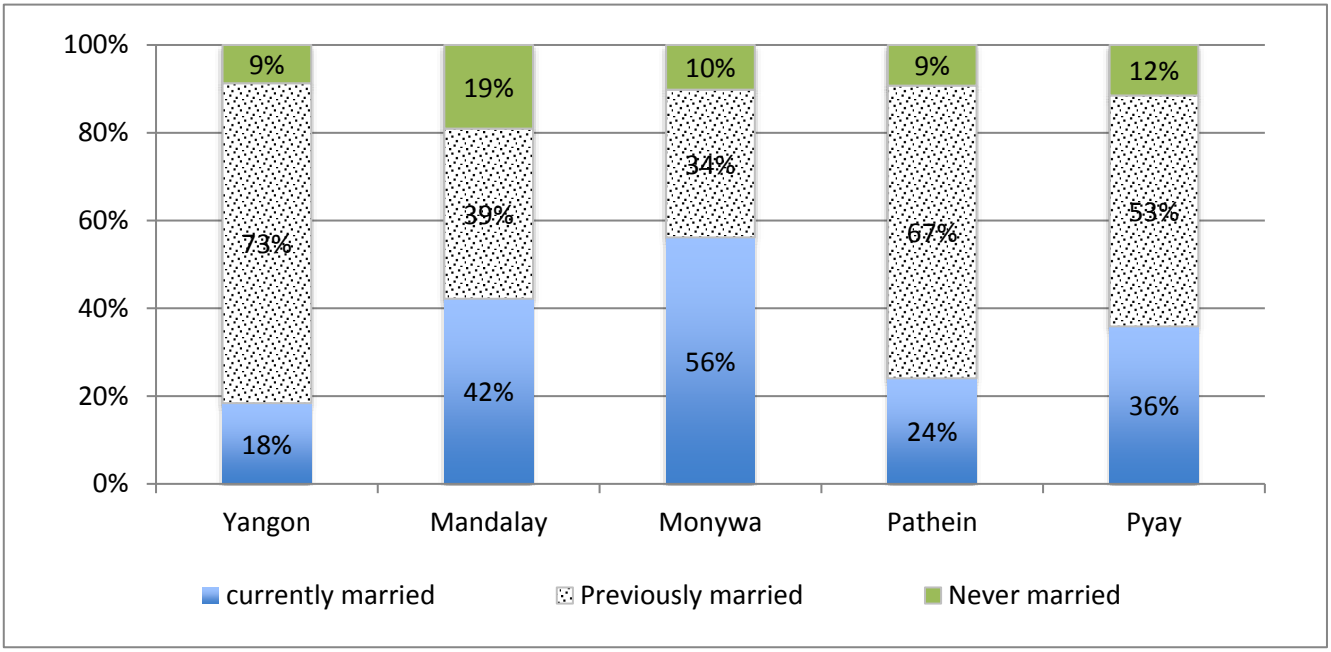
The vast majority (~90%) of respondents were currently or previously married.[9] The percent married also was high in survey sites with a higher proportion of younger FSW. In Monywa, more than half of respondents were currently married, the highest proportion reported among all five sites. This result appears consistent with the high proportion of women for whom sex work was not their main source of income, as women who are currently married may only need to do sex work to supplement household income earned by their spouse. In contrast, less than one quarter of respondents in Yangon and Pathein were currently married.

As may be expected for women who have been previously or who are currently married, a majority of FSW respondents had children. About three quarters of respondents in Yangon, Monywa and Pathein[10] had children; about two thirds of women in Mandalay and Pyay had children. The highest proportion of FSW with two or more children was reported in Monywa (53%).

[9] Estimates for this variable in Mandalay did not reach convergence and may not be reliable.

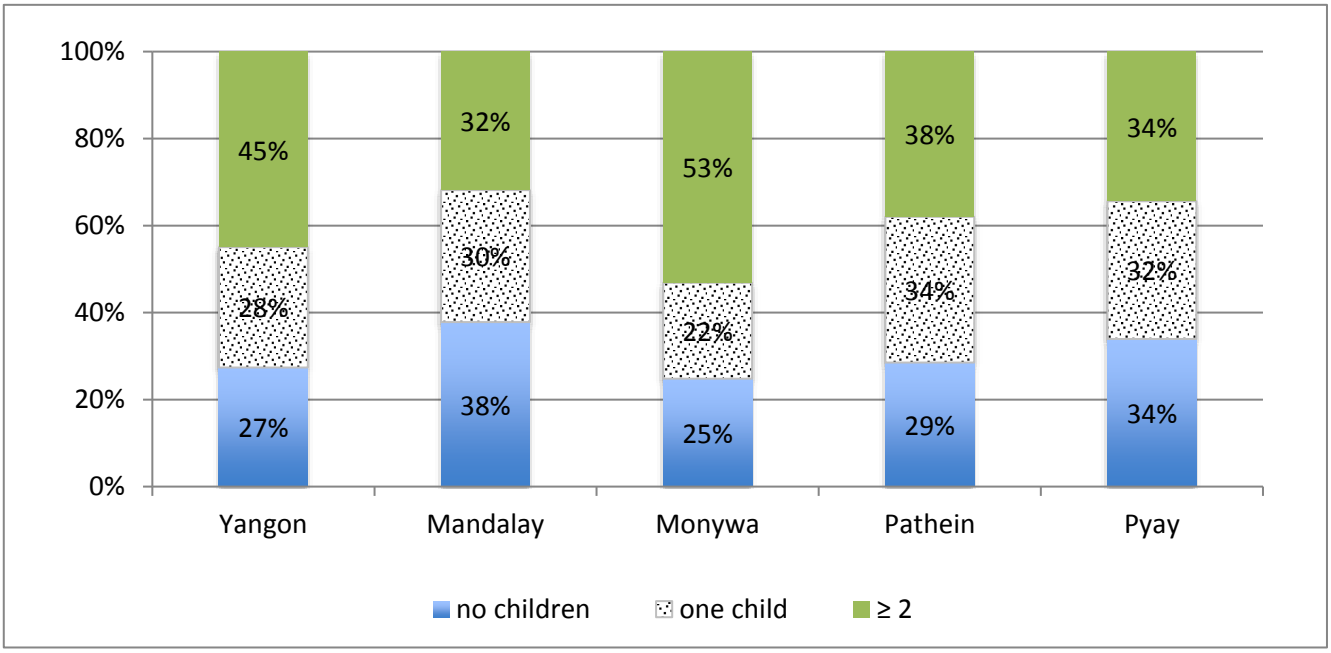
[10] Bottlenecks for this variable in Pathein were found and the estimate may not be reliable.

Figure 5: Current marital status of FSW respondents



Denominator: All respondents

Figure 6: Proportion of FSW respondents with children



Denominator: All respondents

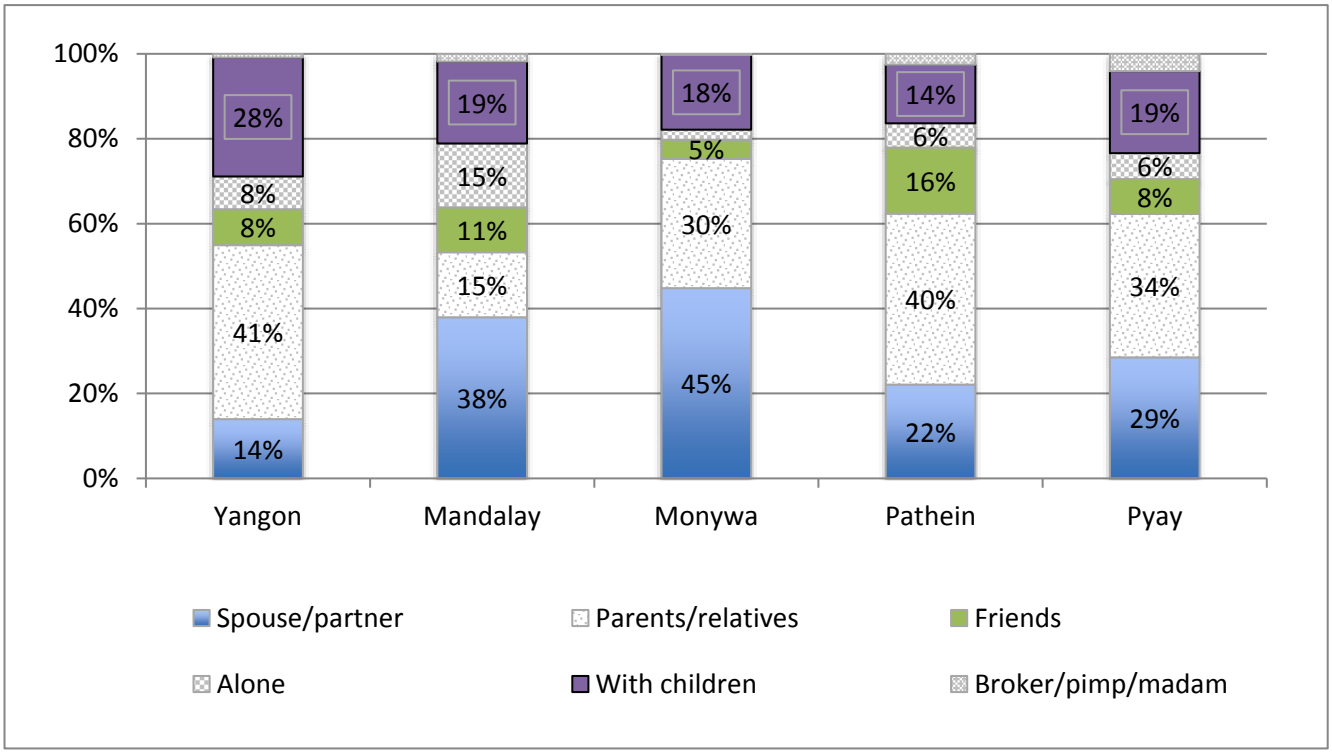
Having a spouse and/or children implies that FSW may live with their own families. When asked to describe their household composition, the proportion of women who lived with their children was smaller than those who lived with other family members. This proportion ranged from 14% in Pathein to 28% in Yangon. The proportion who lived with a spouse or partner was similar but slightly lower than the proportion of those who reported currently being married in each township. A large proportion of respondents lived with their parents or other relatives, which may be necessary if these women also had children and needed support from families with child care when they were working.

3. Income, education, literacy, and mobility

Respondents were asked about their average monthly income over the last 12 months as well as their average monthly income from sex work. The median monthly income was 200,000 kyats for FSW in Yangon,

Mandalay, Pathein, and Pyay. The median monthly income from all sources was lower in Monywa at 150,000 kyats.

Figure 7: Household composition of FSW respondents

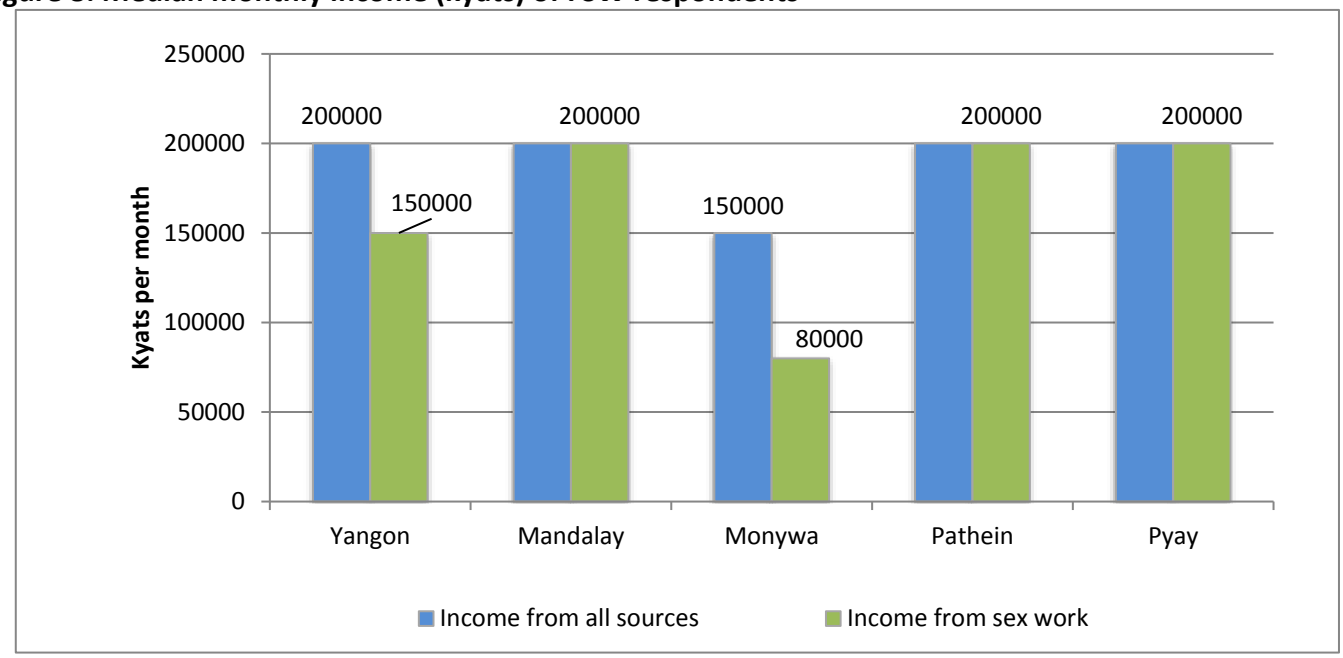


Denominator: All respondents

As expected, the median monthly income from sex work was the same as overall monthly income in the sites where the majority of sex workers said sex work was their primary source of income. However, in Monywa, only 55% of respondents' monthly income was from sex work (see detailed tables in Annex 6)

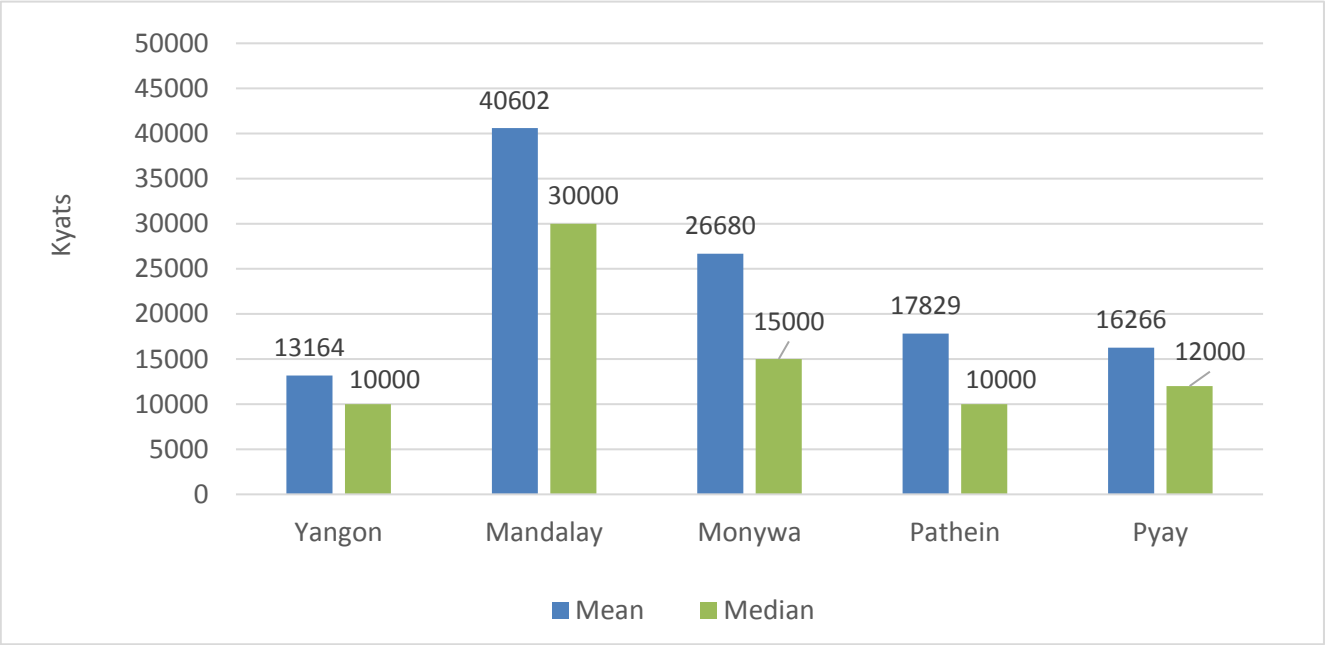
The median amount received by FSW respondents from their last sex with a client ranged from 10,000 kyats in Yangon and Pathein to 30,000 kyats in Mandalay. This suggests that the socio-economic status of FSW varies between sites.

Figure 8: Median monthly income (kyats) of FSW respondents



Denominator: All respondents

Figure 9: Amount FSW respondents received from client at last sex

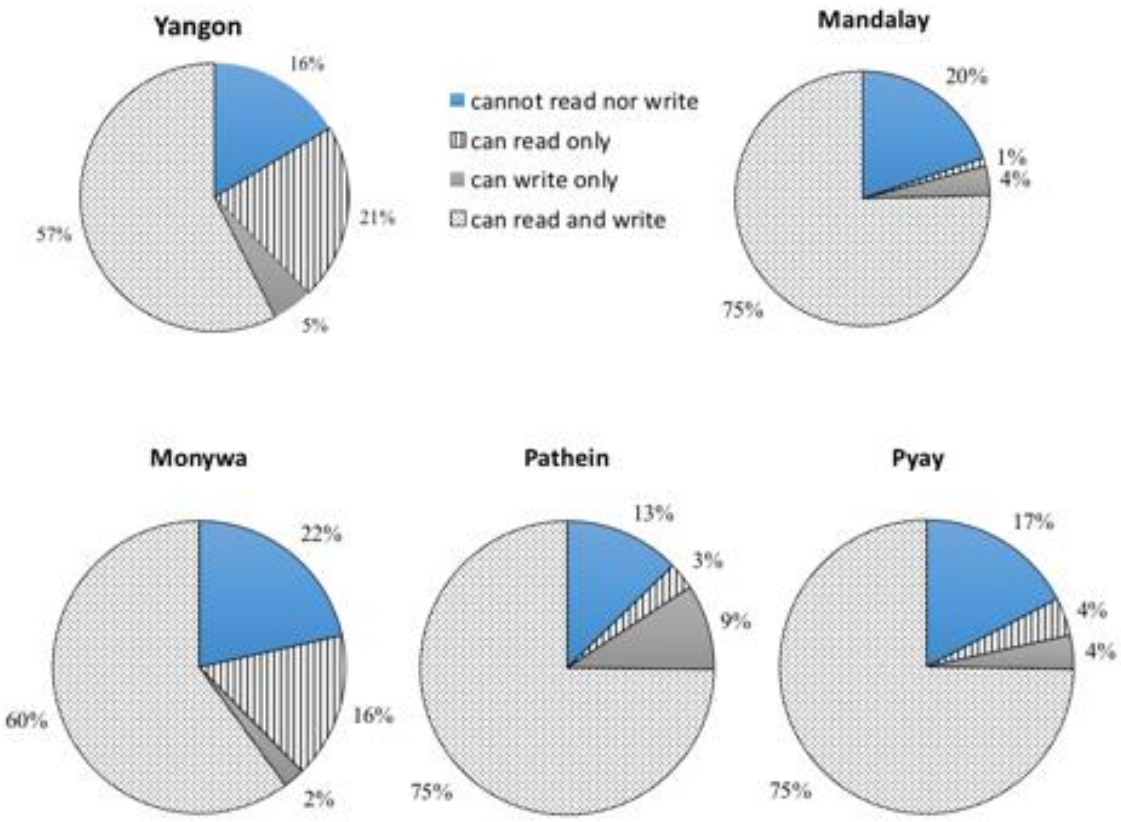


Denominator: All respondents

Earning potential of FSW likely varies by sex work typology, with generally lower amounts for sex work solicited in public settings compared to sex work solicited in establishments. The larger differences between mean and median amount received from the last client also shows broad diversity in the amount earned by FSW within the same city.

Among FSW in all sites between 13-20% said they could not read nor write in Myanmar language. This level of literacy reflects the socio-economic status of FSW but also has implications for the ability of some members of the FSW community to receive accurate information about HIV prevention or available services from written educational materials

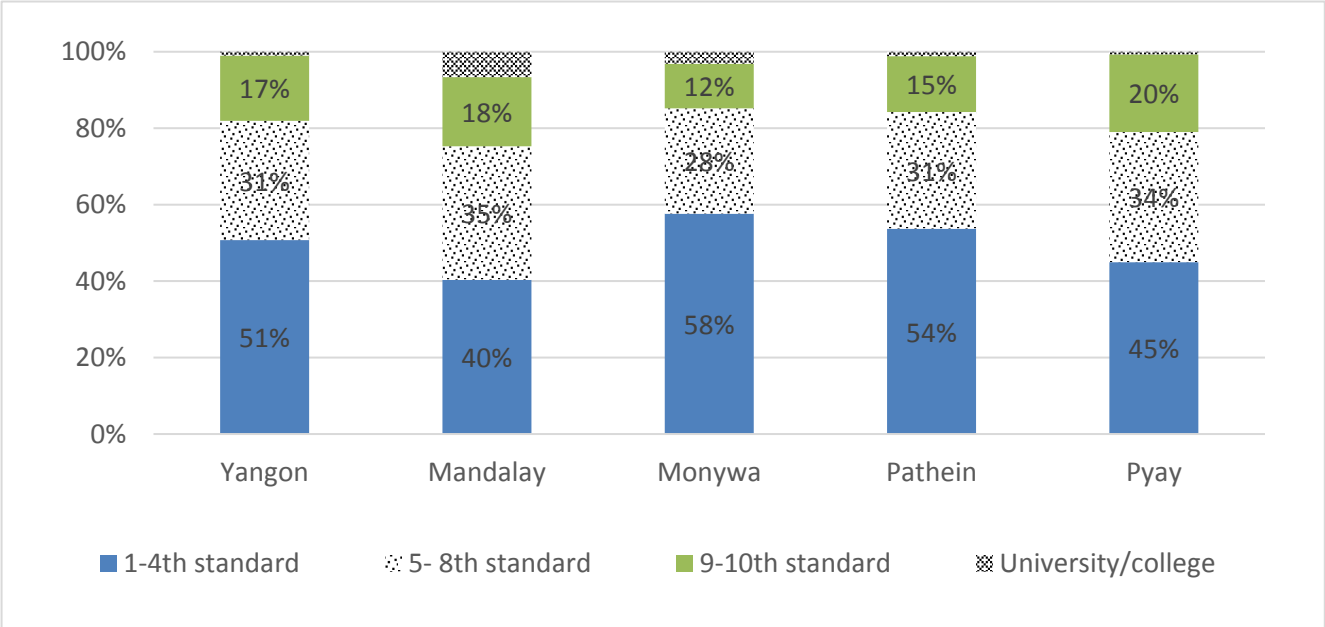
Figure 10: Literacy in Myanmar language among FSW respondents



Denominator: All respondents

When asked about the highest grade of formal education completed, about half of respondents (40-58%) reported they had completed less than 5 years of schooling. The proportion of FSW who completed a university or college degree was less than 5% in all sites.

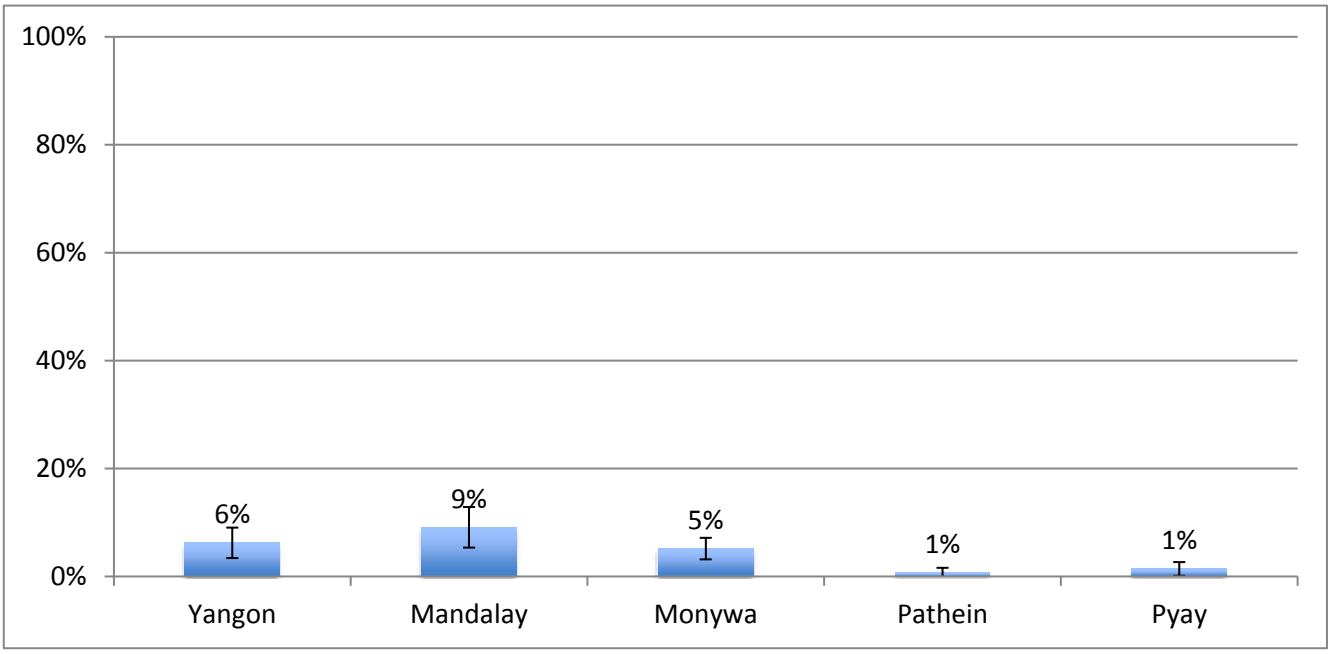
Figure 11: Education status among FSW respondents



Denominator: All respondents

The pattern of moving frequently for sex work is an important characteristic of the FSW population. Less than 10% of respondents reported living in the survey city for one year or less. This was much lower than expected; however, survey eligibility criteria defined 'currently living in the city' as about one year limiting the ability to accurately assess mobility in this population.

Figure 12: Proportion of FSW respondents living in the survey city for one year or less

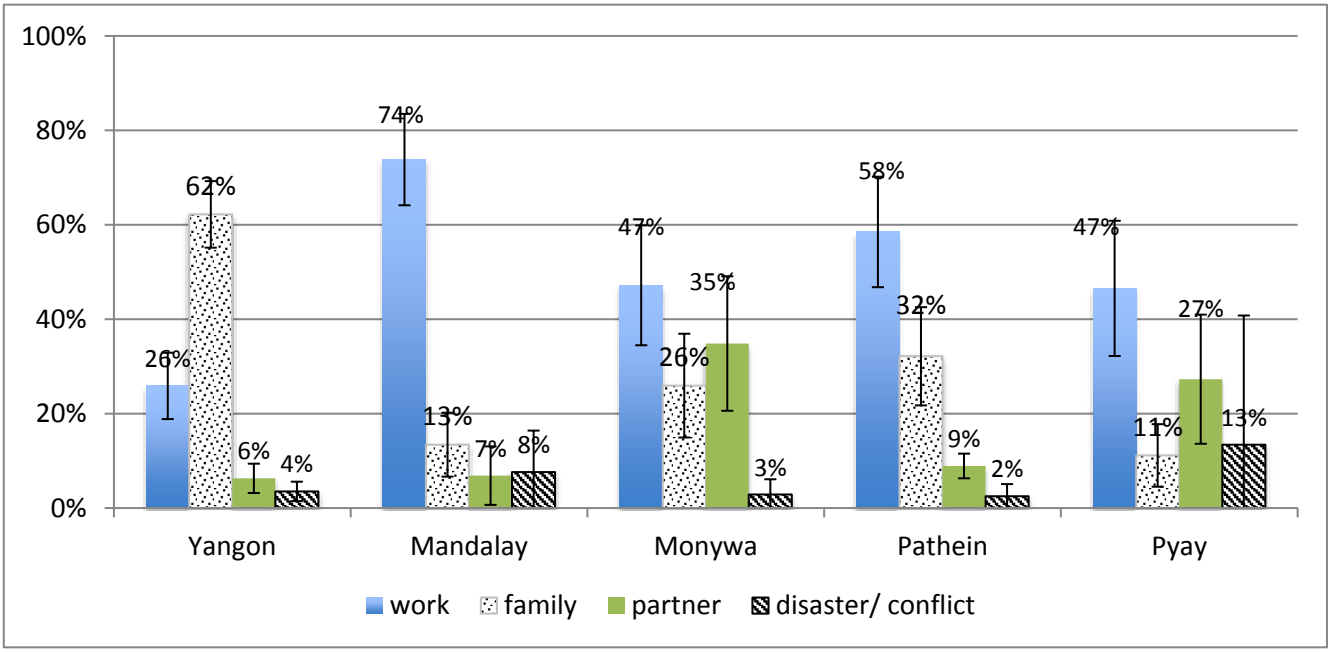


Denominator: All respondents

Respondents were also asked whether they had ever moved and if so, the reasons for moving. In Mandalay, Monywa, Pathein, and Pyay, the most common reason given was for work. The wording of the question does not allow us to distinguish whether this was the work of the respondent or work of another household member; and it cannot distinguish moving for sex work or other types of work the respondent was engaged in. It is possible that some proportion of women moved to get some type of work, and only later turned to sex work as the main source of their income.

For FSW respondents in Yangon, the primary reason given for moving was related to their family moving. This is distinguished from the substantial proportion of respondents in Monywa and Pyay who mentioned 'moving with their partner.'

Figure 13: Reasons for moving given by FSW respondents who once lived in place other than the survey city

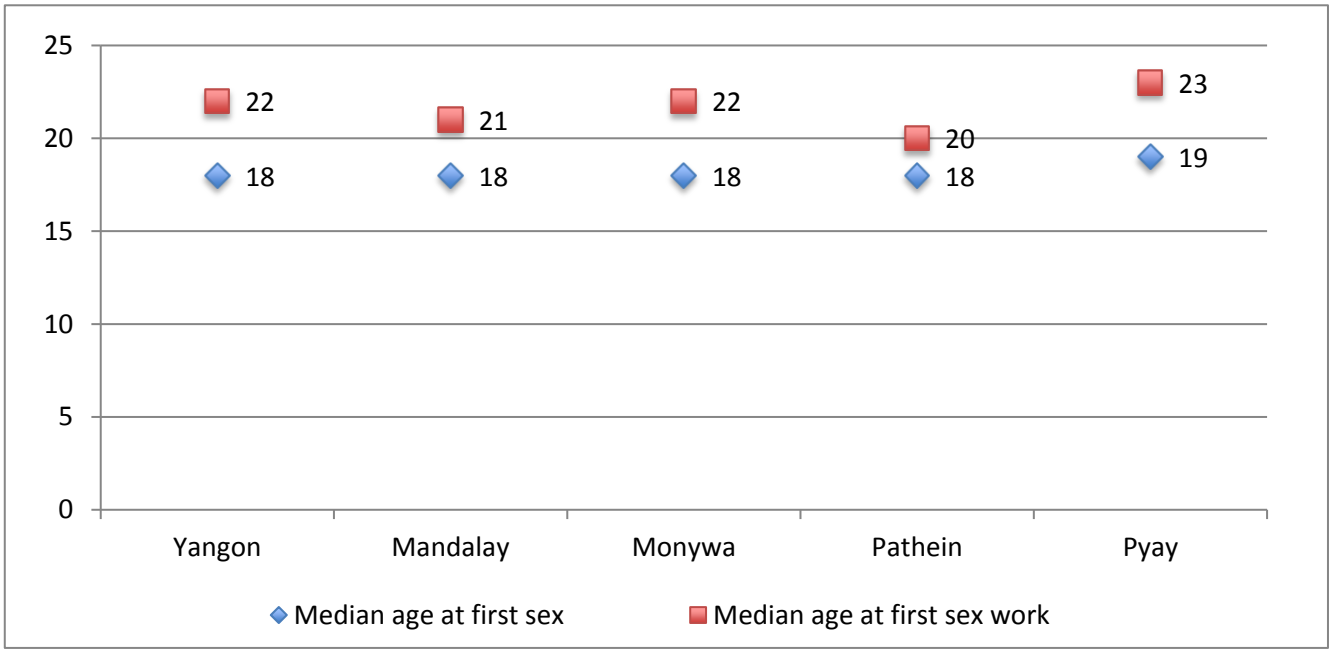


Denominator: Those who had moved to the survey city from elsewhere

4. Sexual debut, duration of sexual activity and sex work

The median age at first sex among FSW respondents was 18 years of age in all sites, except Pyay. In Pyay, the median age of sexual debut was slightly older at 19 years of age. In most sites, respondents reported a median age at first sex work of three to four years later, at age 21-23. These data suggest that a majority of FSW had a period of sexual activity before starting sex work, most likely after they had been married for several years. This information is helpful for understanding the socio-economic context when women decide to start selling sex.

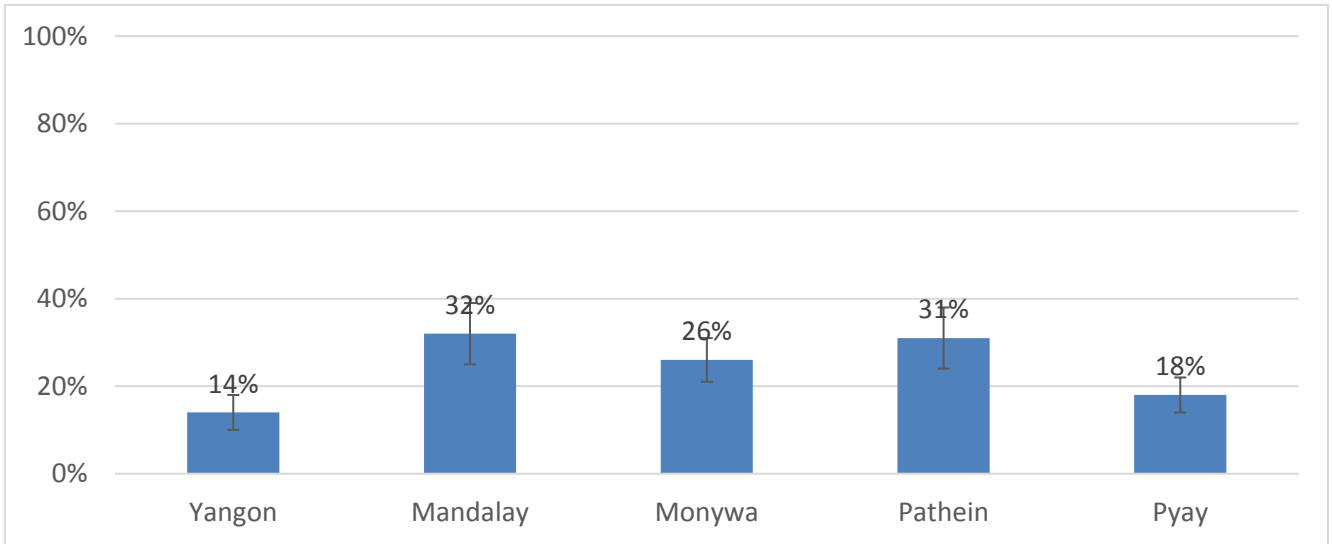
Figure 14: Median age at sexual debut and first sex work experience among FSW respondents



Denominator: All respondents

Nearly one third of respondents in Mandalay and Pathein reported the first sex work experience was forced or coerced, compared to only half that percentage in Yangon (14%) and Pyay (18%). Further studies may be needed to determine whether a forced or coerced first sex work experience is related to increased vulnerability to HIV acquisition and/or current experience with physical abuse or feeling forced to do things with clients.

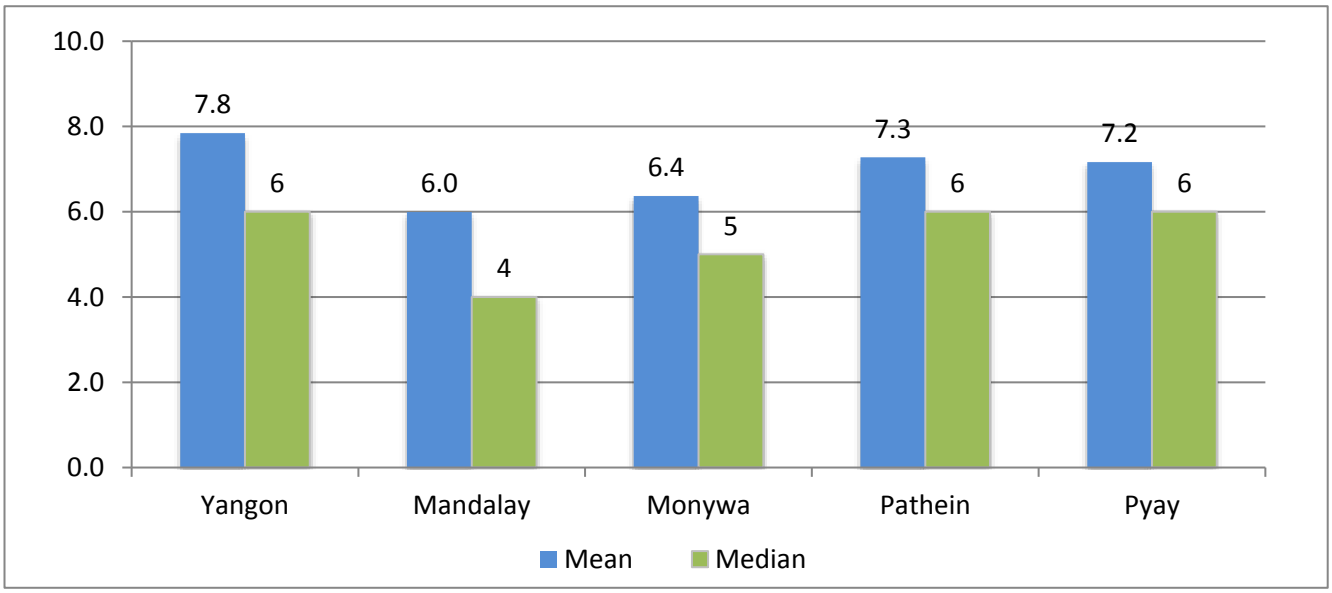
Figure 15: Proportion of FSW respondents who reported their first sexual experience was forced or coerced



Denominator: All respondents

Given the current age of respondents and the reported age of first selling sex, we calculated the mean and median duration of selling sex among FSW in the survey. This assumes that women sold sex continuously through the time period from initiating sex work to being included in the survey. The median number of years ranged from four to six years of selling sex.

Figure 16: Duration of selling sex among FSW respondents at the time of the survey



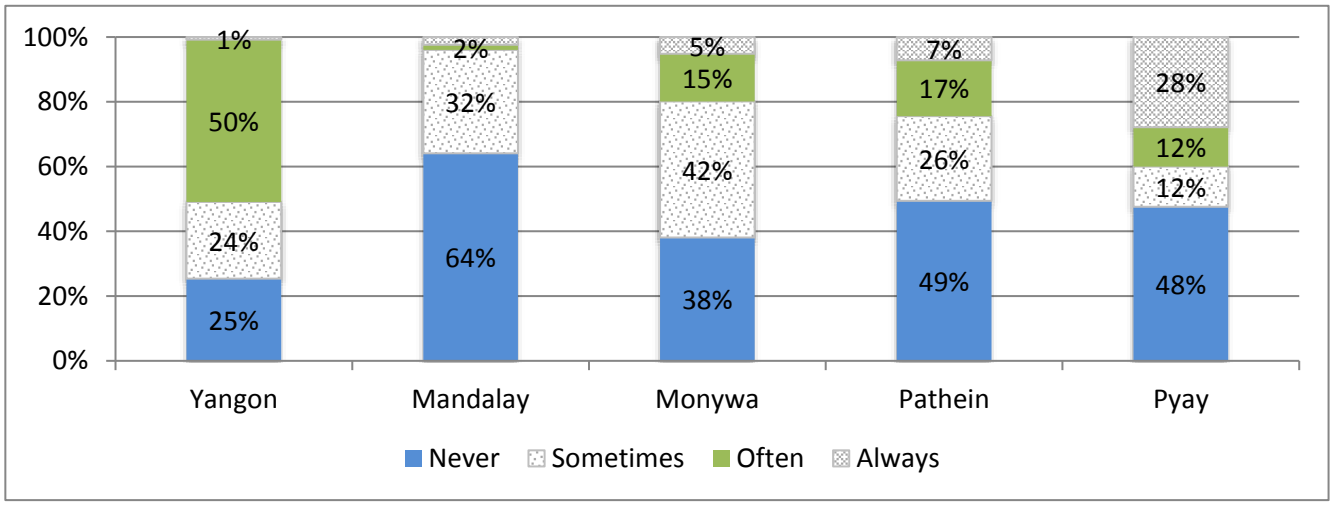
Denominator: All respondents

5. Stigma and discrimination

Due to the illegal status of sex work in Myanmar, stigma and discrimination against FSW can be a serious barrier to accessing HIV related services, especially among the more vulnerable, lower socio-economic status individuals. Stigma and discrimination may come from health care providers creating an unwelcoming environment for FSW. Experiencing sex worker-related stigma and discrimination from friends and family may also discourage FSW from seeking HIV or other health care services because being open about their risk behavior will disclose their identity as an FSW.

Respondents in each site reported varying levels of stigma as a barrier to seeking health services. In Yangon, about 50% of FSW reported they often or always avoided health care due to stigma, compared to 4% in Mandalay. The remaining sites fell in between these levels, with 20% of respondents in Monywa, 24% in Pathein, and 40% of FSW in Pyay often or always fearing discrimination in health care settings to the point of not seeking services. These data suggest the need for more efforts to reduce stigma and discrimination against FSW in health care settings.

Figure 17: Frequency by which FSW respondents felt afraid to seek health services because of stigma and discrimination against sex work in the last 12 months



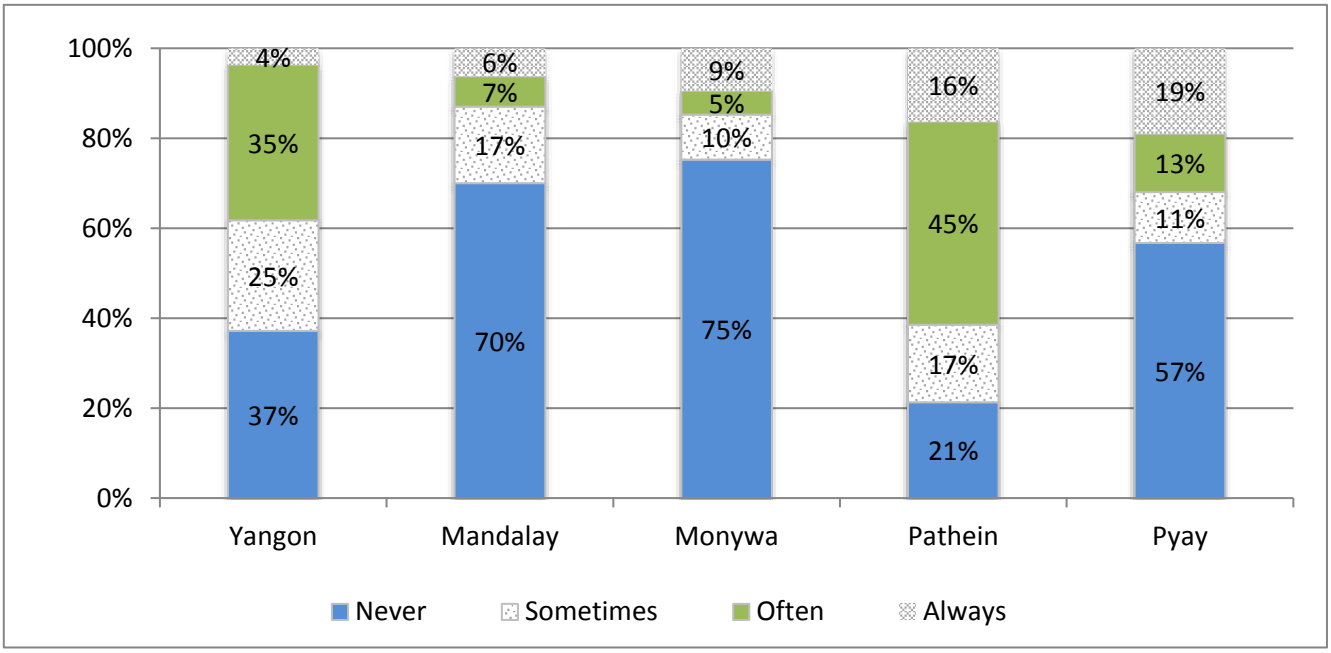
Denominator: All respondents

When asked about being rejected by friends or family in the last year because of being sex workers, FSW respondents reported lower frequency of stigma (i.e., feeling rejected) compared to their experience in health care settings.

In Mandalay and Monywa 70-75% of respondents never experienced rejection in their social network. Only 37% of FSW respondents in Yangon, and 21% of those in Pathein never felt this type of rejection. The percent reporting 'always' feeling rejection was greatest in Pathein and Pyay with more than 15% of respondents saying they 'always' felt rejected by their friends and family due to their sex work identity. Experience being rejected by family and friends is likely to be related to whether family and friends were aware of the respondent's sex work activity.

Respondents were asked how frequently they pretended not to be a sex worker in the last 12 months, but the proportion who often or always pretended not to be a sex worker in each township was not strongly correlated with being rejected by friends and family. (See Annex 6. for detailed tables).

Figure 18: Frequency of being rejected by family or friends in the last 12 months because of being a sex worker



Denominator: All respondents

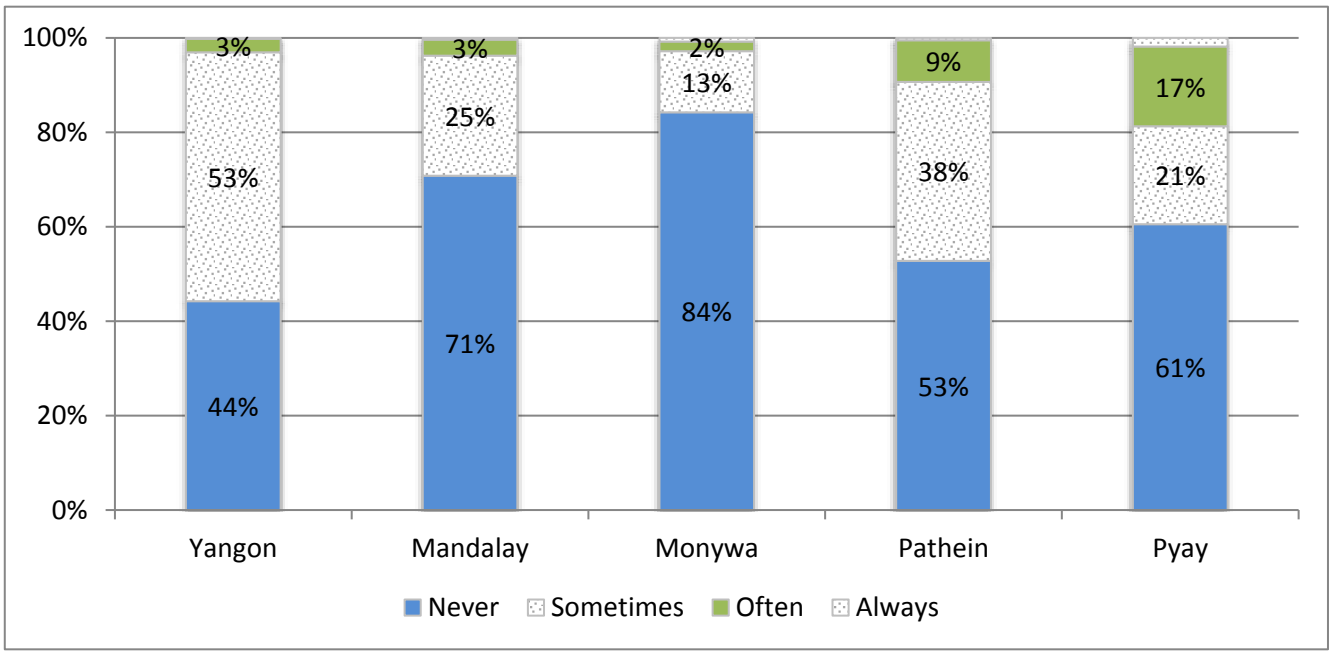
In addition to the experience of perceived stigma and discrimination, FSW were asked if they were physically abused related to being a sex worker in the last 12 months.[11]

In Yangon, more than half (56%) of respondents reported being hit or beaten sometimes or often compared to 28% in Mandalay. The lowest frequency of physical abuse reported was in Monywa, where only 15% of respondents reported being hit or beaten sometimes or often.

With regards to being forced to have sex with clients, we found a third to a half of respondents sometimes or often in the last 12 months had sex for fear of what the client would do. The questionnaire did not specify whether FSW feared physical abuse, sexual violence, or felt coerced to have sex because of monetary need.

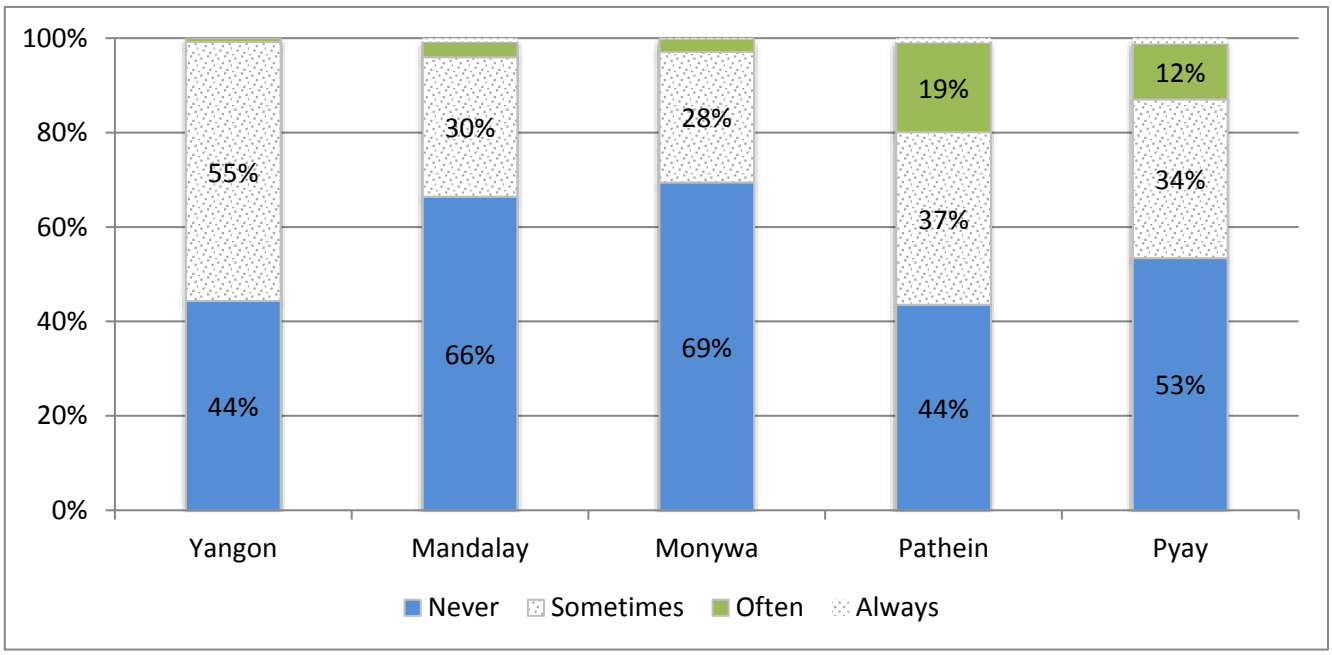
[11] The survey questionnaire did not ask about the relationships between the respondent and the person inflicting physical abuse (e.g., from a client, broker, intimate partner, other family member, police, etc.)

Figure 19: Frequency of being hit or beaten for being a sex worker in the last 12 months



Denominator: All respondents

Figure 20: Frequency of feeling forced to have sex in the last 12 months because of fear of what the client would do



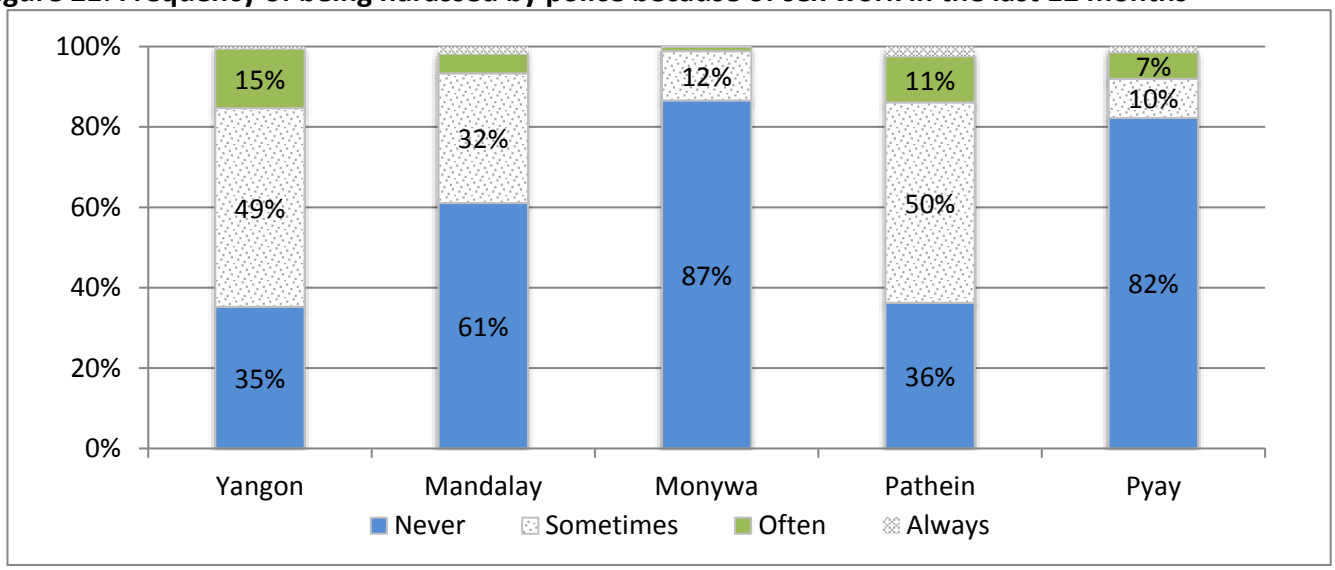
Denominator: All respondents

The situation in which FSW are unable to control the context in which they have sex with clients is likely to be one in which risk for HIV is increased.[12] The fact that nearly 20% of respondents in Pathein reported often having sex with clients when they didn't want to because of fear, suggests that more efforts to understand these contexts and develop services and approaches to reduce these situations should be important priorities for HIV programmes.

[12] WHO (2012). Prevention and treatment of HIV and other sexually transmitted infections for sex workers in low- and middle-income countries: recommendations for a public health approach.

Being harassed by police constitutes another form of fear in the work environment faced by sex workers. An environment in which a high level of police presence results in FSW being forced to work in more hidden and informal setting may be linked with an increased risk for HIV because of reduced access to prevention services and outreach. We observed similar patterns by site in the frequency of police harassment, having sex for fear of what clients might do, and being hit or beaten for being a sex worker. The highest frequency of sometimes or often being harassed by police was reported by Yangon respondents, followed by Pathein. In comparison, Mandalay respondents reported more moderate frequency of harassment and respondents in Monywa reported the lowest frequency.

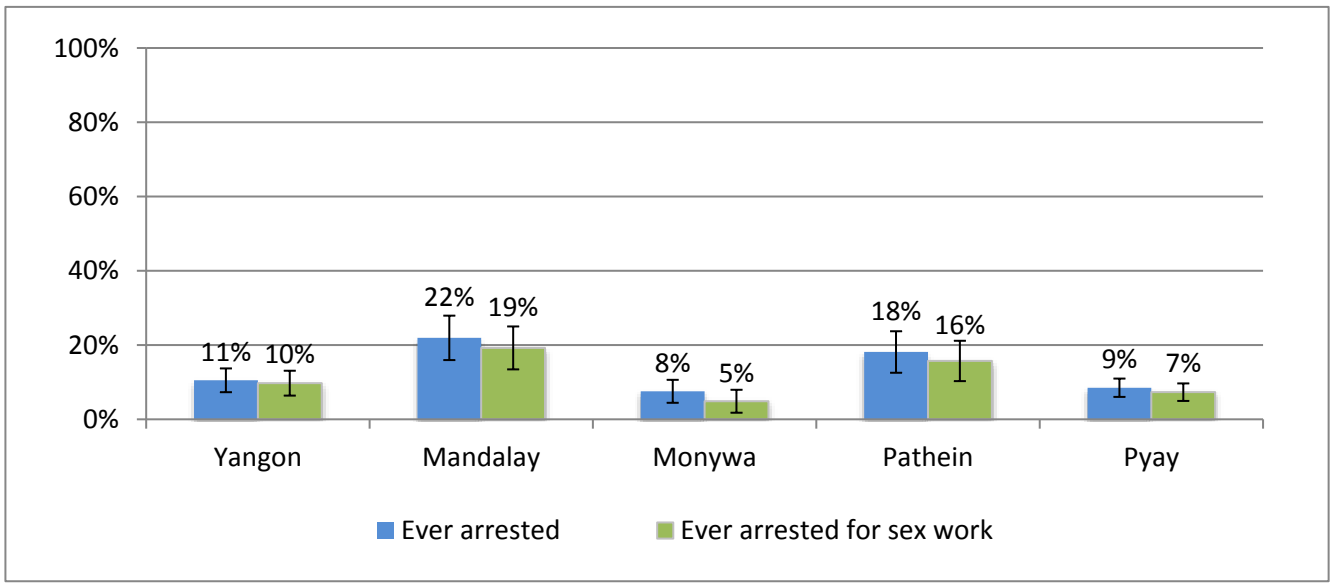
Figure 21: Frequency of being harassed by police because of sex work in the last 12 months



Denominator: All respondents

In addition to asking about frequency of police harassment, interviewers asked respondents about their history of arrest and being arrested for being a sex worker. Overall, a majority of respondents who ever had been arrested had been arrested for selling sex. And while respondents in Yangon reported the highest frequency of police harassment, they reported relatively low or moderate levels of actual arrest or detainment. The largest proportion of respondents reporting ever being arrested were from Mandalay, and about one in five FSW had been arrested for reasons related to sex work. The proportion of FSW in Pathein ever arrested was similarly large. The smallest proportions of FSW ever arrested were from Monywa and Pyay.

Figure 22: History of ever being arrested and arrest for being a sex worker among FSW respondents



Denominator: All respondents

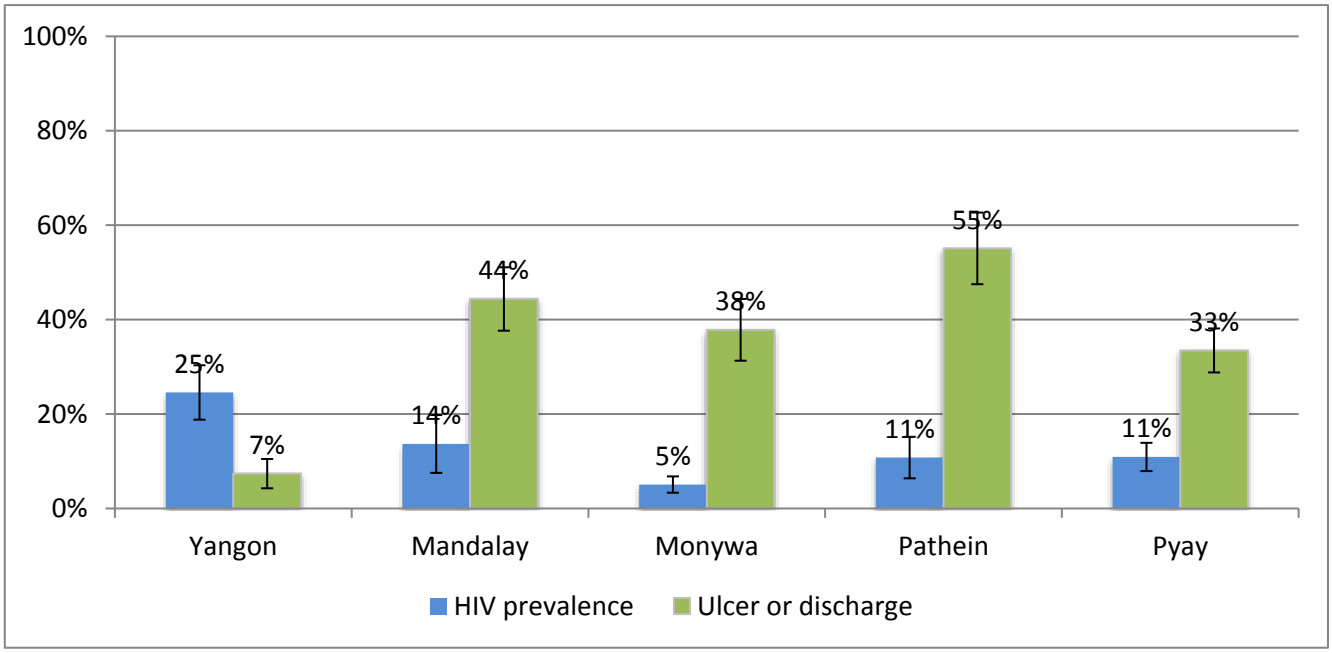
The generally lower levels of physical harm, arrest, or threat reported by FSW in Monywa may also reflect the experience of the half of women in the sample who did not depend on sex work for the main source of income. These women may solicit clients less frequently or have more flexibility and choice about the contexts in which they sell sex and may be able to avoid situations where they may be arrested for sex work.

6. HIV and STI infection

In all sites, HIV prevalence among FSW respondents was 5% or higher. The highest prevalence estimated was among FSW in Yangon at 25%. Mandalay, Pathein, and Pyay respondents had moderately high prevalence (11-14%) and Monywa FSW had the lowest HIV prevalence (5%).

The proportion of FSW who reported experiencing sexually transmitted infection (STI) symptoms (i.e., vaginal discharge or genital ulcers) in the last 12 months was significantly lower (7%) in Yangon compared to the other four sites (33-55%). Although HIV prevalence in Monywa was much lower than other sites, the proportion of FSW respondents reporting STI symptoms was similar to that of other sites.

Figure 23: HIV prevalence and STI symptoms in the last 12 months

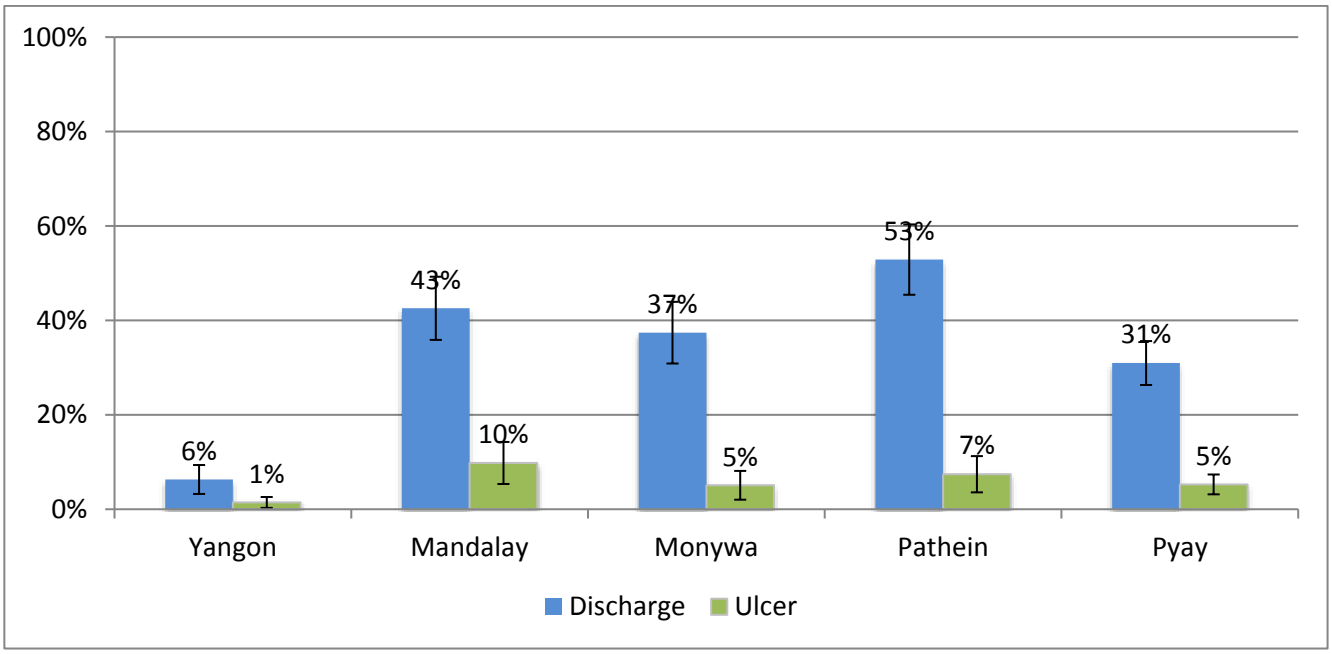


Denominator: All respondents

Among women, the specificity of vaginal discharge for STI is lower than that of genital ulcer. Most of the STI symptoms reported by FSW respondents were vaginal discharge with relatively fewer respondents reporting genital ulcer. However, the pattern across sites remained the same, with a very small proportion of FSW in Yangon reporting genital ulcer compared to the proportion reported in the other four sites.

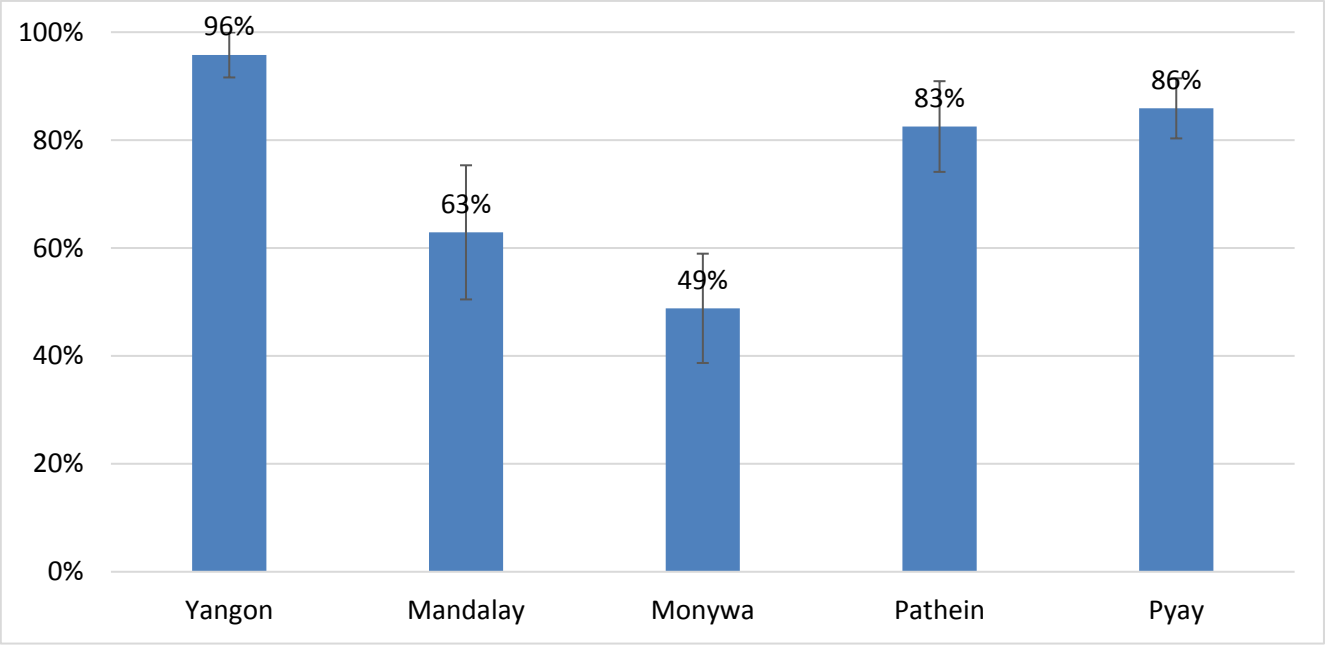
More than 80% of respondents in Yangon, Pathein, and Pyay sought treatment when they experienced vaginal discharge or genital ulcers. However, among those with symptoms, only 63% of FSW in Mandalay and 49% of FSW in Monywa sought treatment. Differences in treatment seeking behavior may reflect availability of services, perceived user-friendliness (i.e., convenience, cost, non-discriminatory service providers) of services, and awareness that STI services are available.

Figure 24: Proportion of FSW respondents who experienced vaginal discharge and genital ulcers in the last 12 months



Denominator: All respondents

Figure 25: Proportion of FSW respondents who sought treatment the last time they experienced vaginal discharge or genital ulcers in the last 12 months



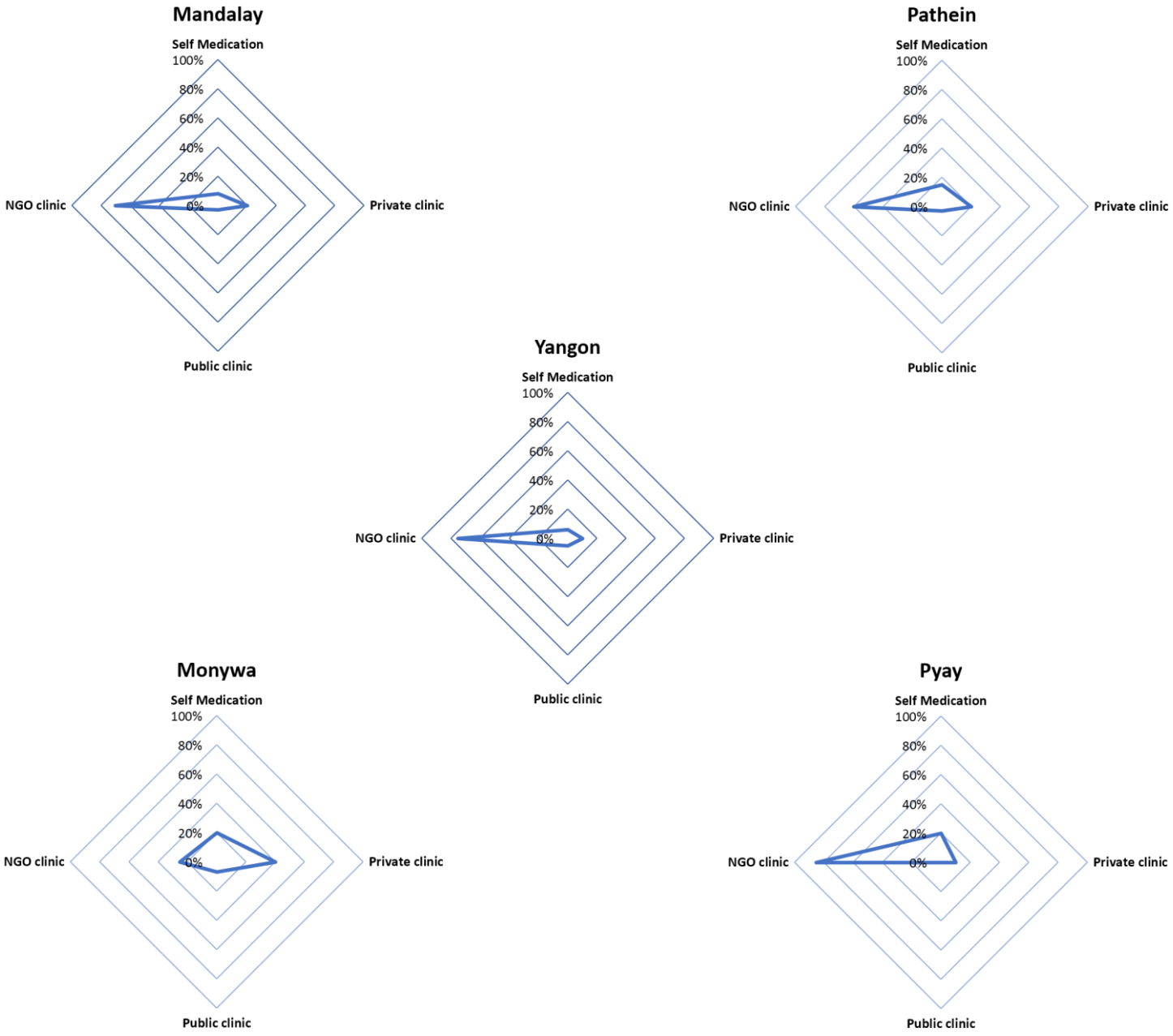
Denominator: Among those with vaginal discharge or genital ulcers in the last 12 months

Figure 26 illustrates the type of treatment FSW respondents sought when experiencing STI symptoms. These radar-style figures show that with the exception of FSW in Monywa, most respondents sought treatment at an NGO clinic (61-83%), indicated by the largest peak to the left of each graph.
Respondents with STI symptoms less frequently reported seeking treatment at private clinics (6-22%) or using some form of self-medication (7-15%). In Monywa, FSW with symptoms who sought treatment went to NGO clinics sometimes (26%) but were more likely to go to a private clinic (42%). The proportion who reported self-medication was highest in Monywa (22%).

When respondents were stratified by sex work typology we found statistically significant differences in HIV prevalence for only two sites: Monywa and Pyay. In Monywa, none of the 118 visible FSW, i.e., those who solicit clients from public places such as streets, parks, etc., were HIV positive, compared with 7% of the 142 semi-visible and 8% of the 130 hidden FSW.

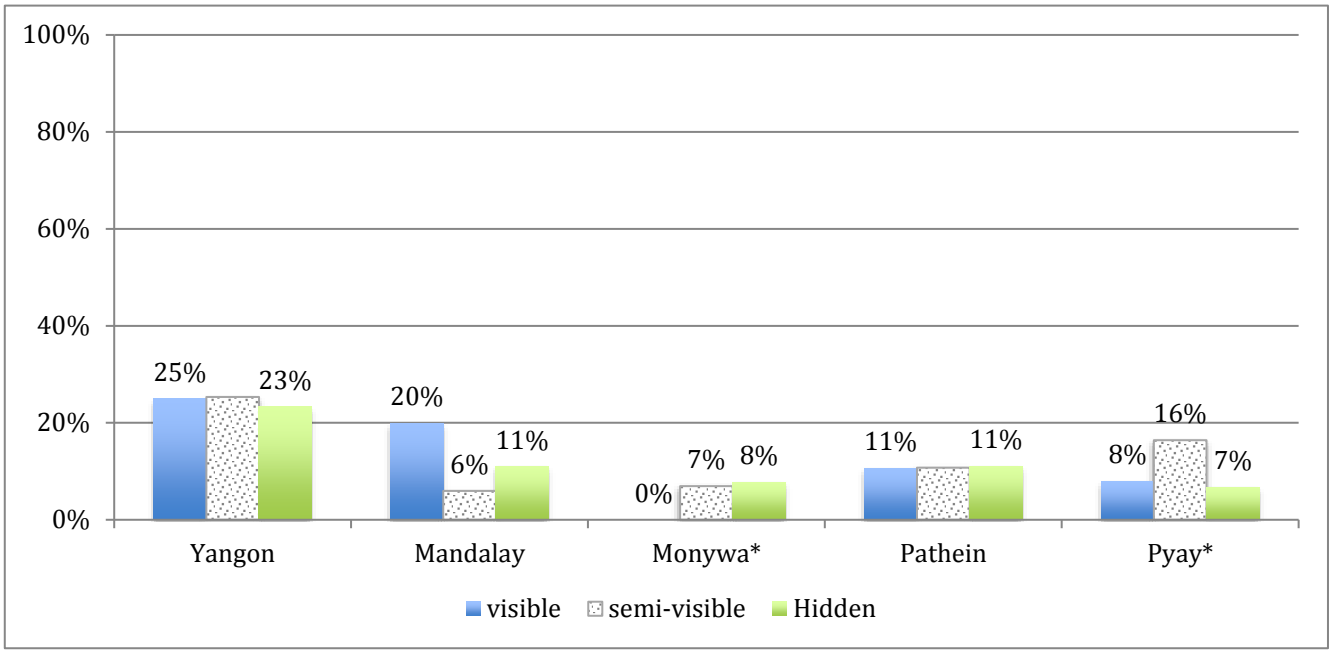
In Pyay, a slightly different pattern emerged. HIV prevalence among the 130 visible and 126 hidden FSW was about half that of the 163 semi-visibleFSW. In Yangon and Pathein the HIV prevalence among all three types of sex workers was the same. In Mandalay, the 194 visible FSW appeared to have much higher HIV prevalence than the 145 semi-visible or 42 hidden FSW, however, these differences were not statistically significant.

Figure 26: Places where FSW respondents sought treatment when experiencing STI symptoms (multiple responses allowed)



Denominator: Those who had STI symptoms and sought treatment

Figure 27: HIV prevalence of FSW respondents by sex work typology

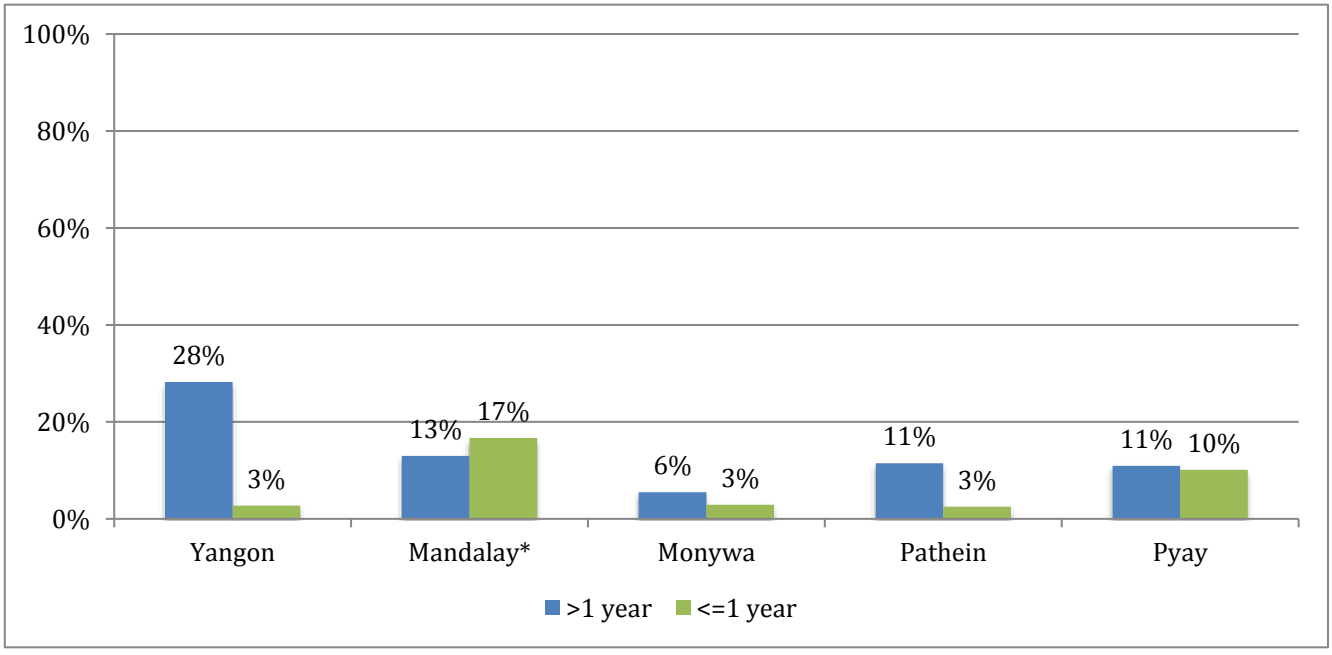


*statistically significant differences between groups

The lack of a consistent pattern of HIV prevalence by sex work typology group suggests that sex work dynamics and risk of acquiring HIV varies from city to city, perhaps due to condom use practices and/or types and volume of clients.

Measuring HIV prevalence among women doing sex work for one year or less provides a useful proxy for new infections. As expected, among Yangon, Monywa, and Pathein FSW who had done sex work for one year or less had relatively low HIV prevalence (<5%) compared with 6-28% among those who had been engaged in sex work for more than one year. HIV prevalence among those doing sex work for one year or less was very high in Mandalay (17%) and Pyay (10%). Further investigation is needed to understand who these newer FSW are and what characteristics they share which may explain why HIV prevalence was already so high.

Figure 28: HIV prevalence among FSW respondents by duration of sex work

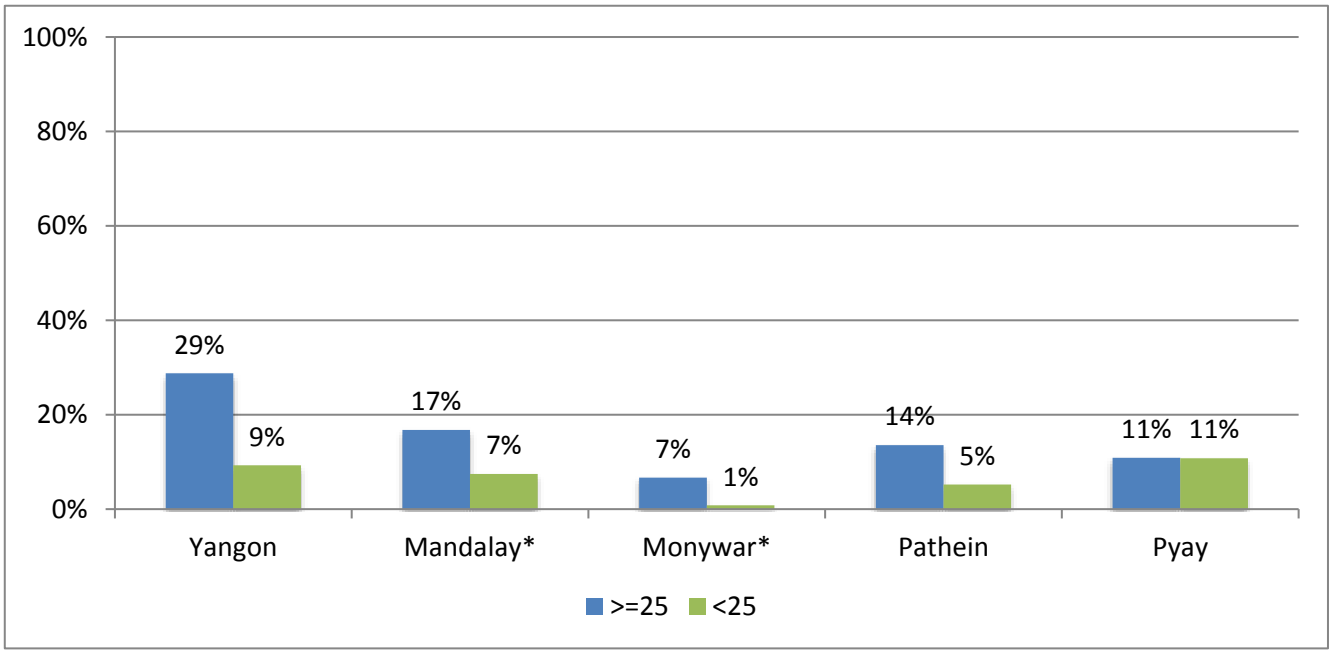


*=statistically significant differences between groups

One challenge is the relatively small sample size (ranging from 19-75) of FSW who have been doing sex work for one year or less, which results in low precision (wide confidence intervals) and difficulty determining whether these high HIV prevalence estimates are reliable and meaningful. This is especially true for FSW in Mandalay, where 17% of women who had been doing sex work for one year or less were HIV positive. We examined whether injection drug use among FSW or having PWID partners might explain higher levels of HIV prevalence in newer sex workers, but this analysis did not suggest injection drug use as a credible explanation.

Young age may also serve as proxy for new HIV infection. Furthermore, younger women and those new to sex work may be more vulnerable to HIV infection due to having less experience doing sex work and ability to negotiate condom use. Younger women may also have an increased biological susceptibility to infection. The IBBS found HIV prevalence was5-11% among respondents less than 25 years of age in four of the five survey sites. HIV prevalence commonly increases with age, and this increase was observed in all sites, except for Pyay where HIV prevalence was the same (11%) among those younger than 25 and those 25 years and older.

Figure 29: HIV prevalence among FSW respondents by age (years)



*=statistically significant differences between groups

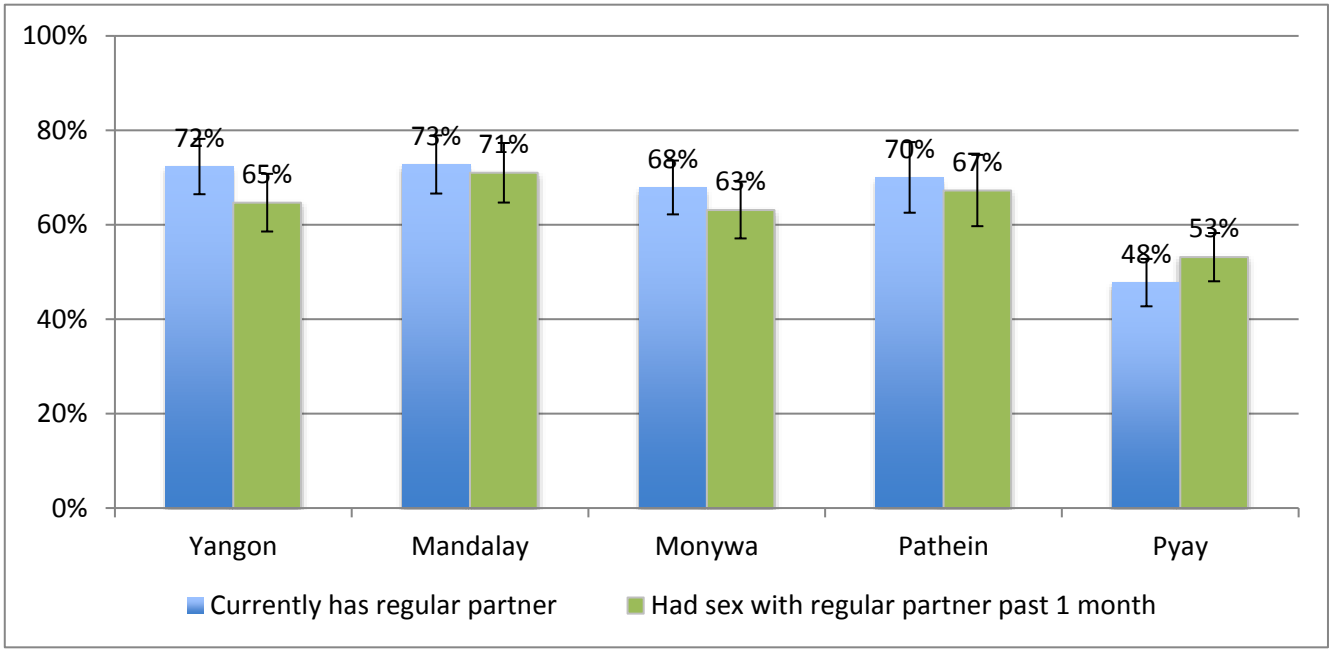
7. Regular and casual non-paying sex partners

A large proportion of FSW respondents were in a relationship with a regular, non-paying partner. In Yangon, Mandalay, Monywa, and Pathein, this proportion ranged from 68-73%. In contrast, the proportion with a regular non-paying partner in Pyay was 48%. The vast majority of these regular partnerships were active with respect to having sex in the past one month.[13]

No more than 10% (range 1-10%) of FSWs in any of the sites reported currently having a casual non-paying partner or recently having sex with a casual non-paying partner. Detailed tables in the Annex 6 provide more information about characteristics of FSW respondents' casual partnerships.

[13] In Pyay, some respondents (~20) reported having sex with a regular partner in the past 1 month, but did not 'currently' have a regular sex partner. This may reflect women who recently (within the last month) discontinued a relationship with a regular sex partner or some discrepancy in how respondents understood the questions.

Figure 30: Proportion of FSW respondents who currently have a regular partner and had sex with regular partner in the past 1 month



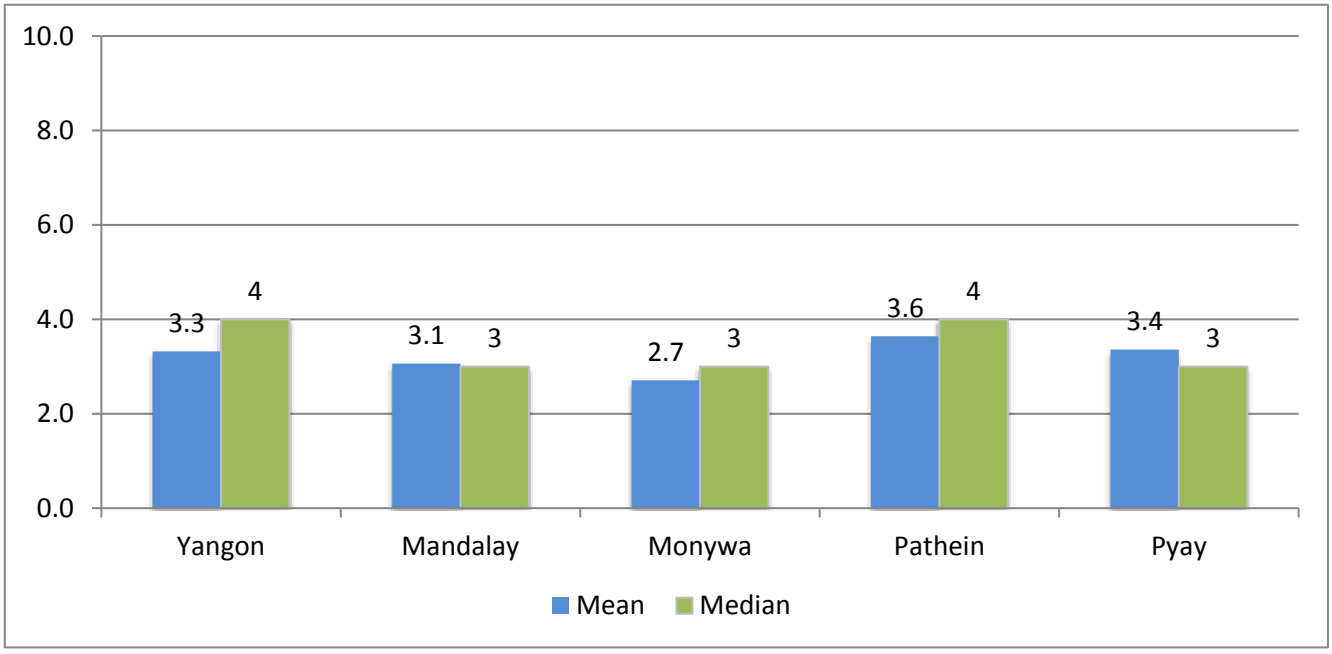
Denominator: All respondents

8. Sexual risk behavior

A. Frequency of selling sex

Several questions included in the IBBS are used to characterize the intensity of sex work conducted in each city. The frequency with which FSW sell sex may indicate the rate of partner change, which has direct implications for HIV transmission dynamics between FSW and their clients. In a typical month in the last year, many FSW respondents did not work every week.

Figure 31: Mean and median number of weeks FSW respondents worked in a typical month in the last year



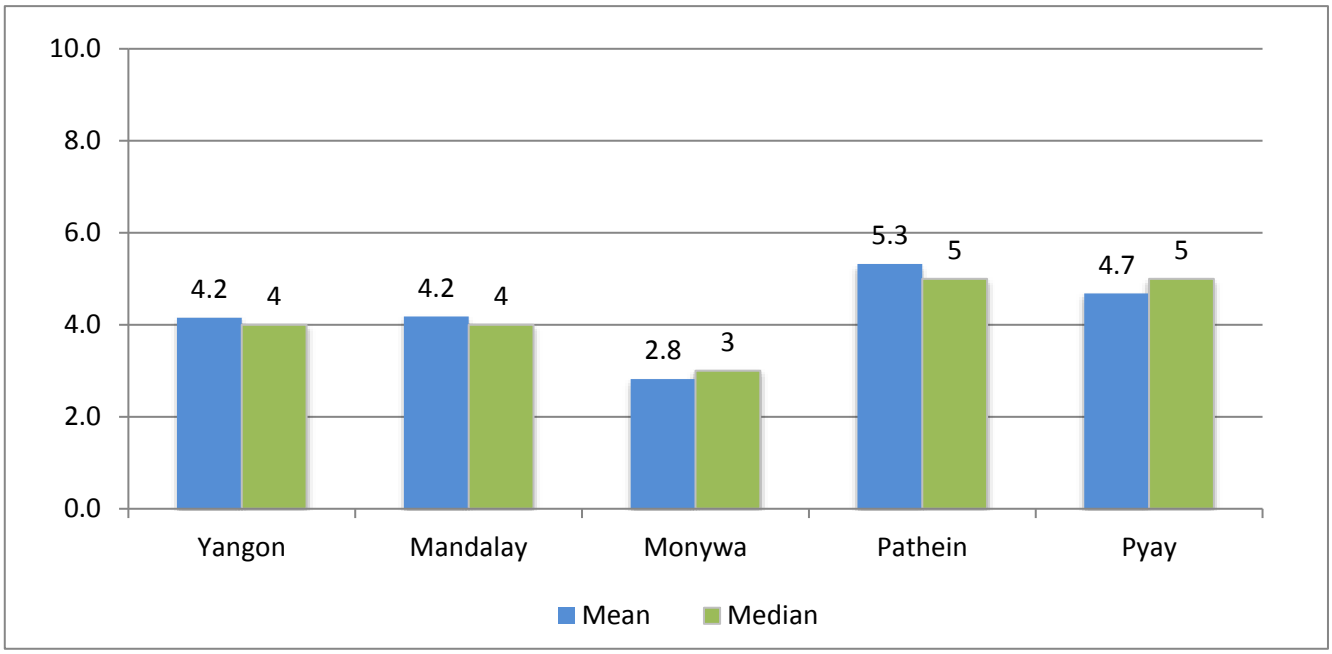
Denominator: All respondents

The mean number of weeks worked in a month ranged from 2.7 in Monywa to 3.6 in Pathein. In Yangon and Pathein, about half of FSW respondents worked 4 (out of 4) weeks in a month.

The median number of days selling sex in a typical work week ranged from 4 to 5 days. The exception was in Monywa, where the median number of days selling sex in a typical work week was 3.

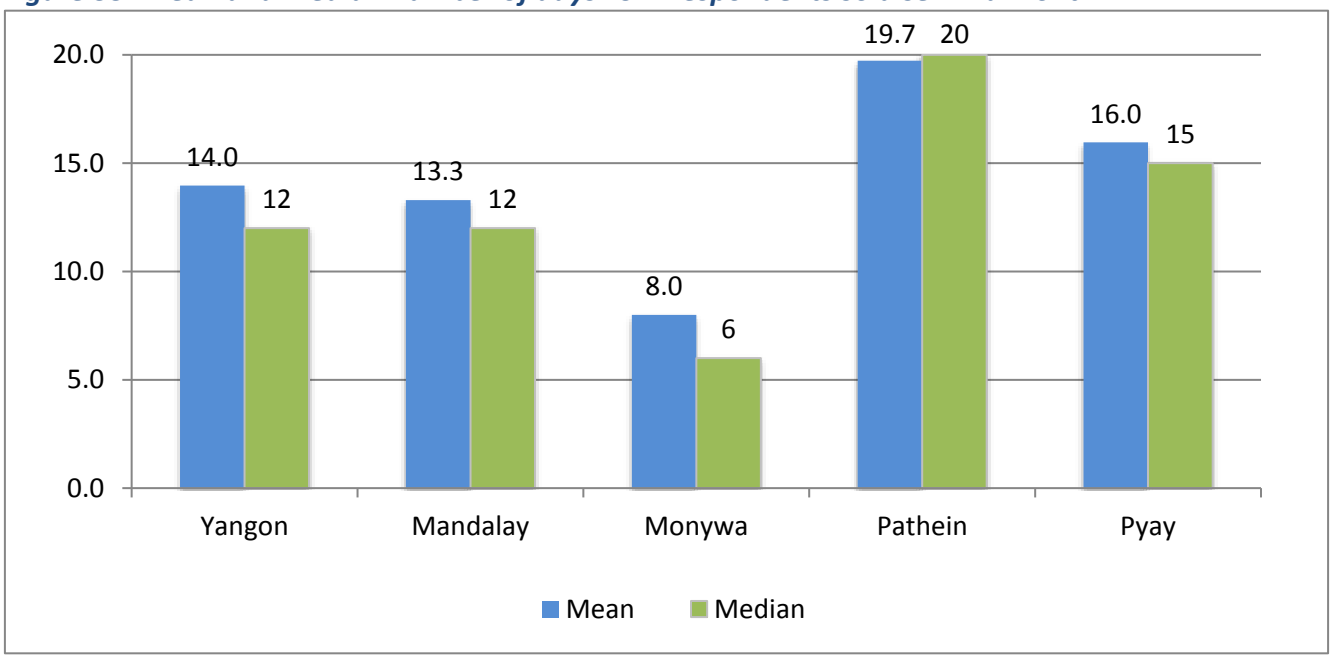
Data from these two variables were combined to estimate the number of working days in a month for each respondent. In the large metropolitan areas, Yangon and Mandalay, the median number of days in a month selling sex was 12, compared to 6 days in a month estimated for Monywa. The median number of days in a month selling sex was much higher in Pathein and Pyay at 20 and 15 days, respectively.

Figure 32: Mean and median number of days FSW respondents worked in a typical work week



Denominator: All respondents

Figure 33: Mean and median number of days FSW respondents sold sex in a month

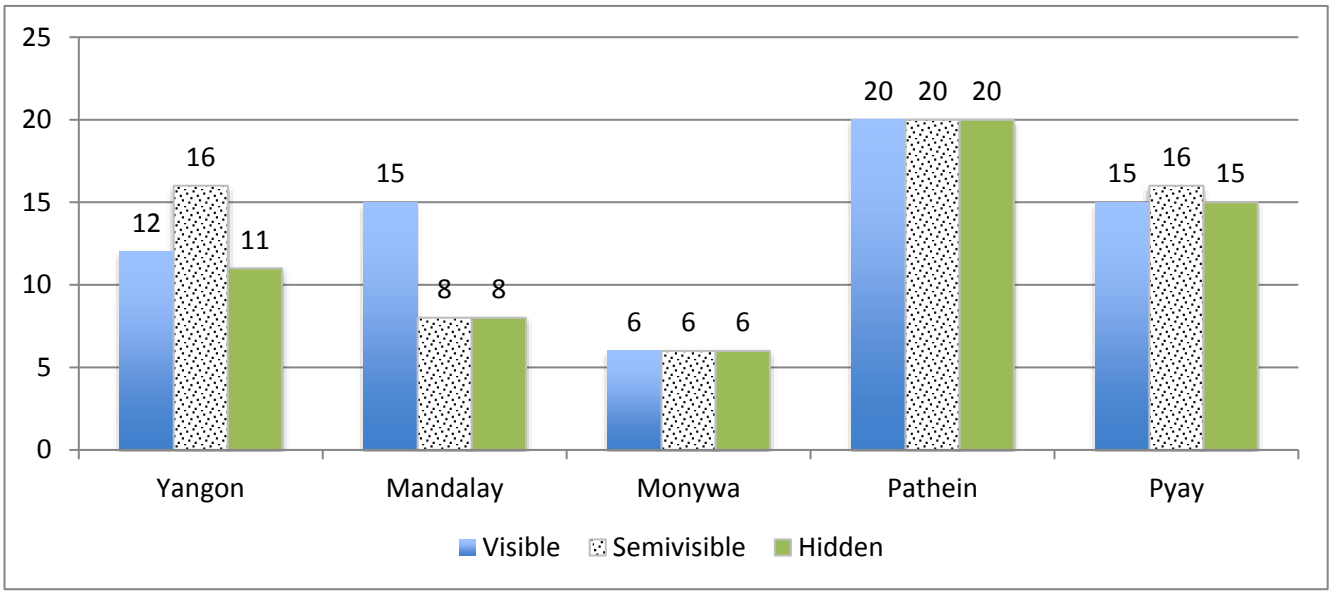


Calculated by multiplying number of weeks in a month and days in a week worked for each respondent.
Denominator: All respondents

Fewer working days in Mandalay is consistent with the results that FSW in this city received more money for sex work from clients. To earn the same median monthly income as respondents in Mandalay (200,000 kyats), FSW in Pathein and Pyay appear to have to sell sex more frequently in a month.

We also examined whether some sex work typologies were associated with higher intensity sex work. In Monywa, Pathein, and Pyay we observed little differences between median number of days selling sex in a month among visible, semi-visible, and hidden sex workers. And there were inconsistent patterns by sex work typology found in Yangon and Mandalay. In Yangon, sex workers who sold sex in entertainment establishments (i.e., the semi-visible) reported more working days compared to those soliciting in public/street venues (i.e., the visible) or hidden FSW. In Mandalay, the median number of days selling sex in a month reported by visible FSW was nearly twice that of semi-visible or hidden FSW.

Figure 34: Median number of days FSW respondents sold sex in in a month by sex work typology

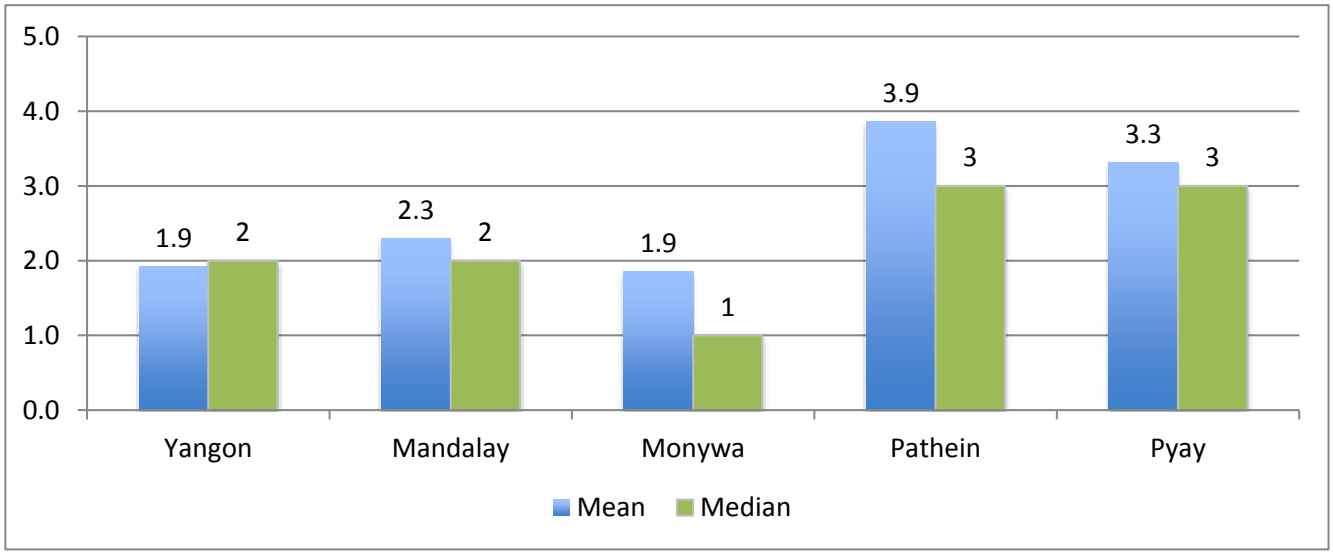


Overall, the relatively fewer working days reported by FSW in Monywa is consistent with the proportion of women who reported sex work as their main source of income.

B. Number of clients

Respondents were asked to report the number of paying clients they had on their last working day. The highest volume of clients was reported by FSW in Pathein and Pyay, and the lowest by FSW in Monywa.

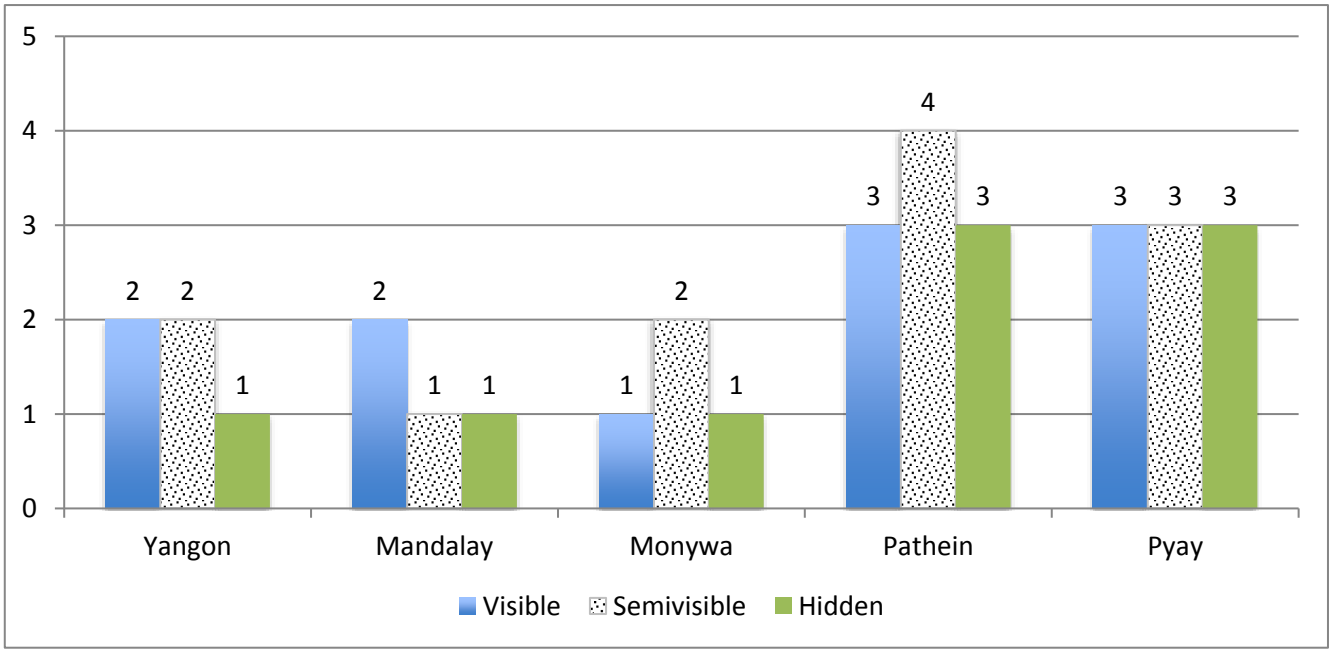
Figure 35: Mean and median number of paying clients on the last working day reported by FSW respondents



Denominator: All respondents

The pattern of numbers of clients by sex work typology was not consistent across townships. The lack of clear patterns by sex work typology may reflect small differences in risk by typology or that the way the categories combines several diverse groups of FSW who are at higher risk of HIV compared to others in the sex work typology used for these analyses.

Figure 36: Median number of clients on the last working day reported by FSW respondents, by sex work typology



The questionnaire also asked respondents to estimate the number of paying clients they sold sex to over the last one month. This longer period might minimize the fluctuations in numbers of clients day-to-day. The numbers of clients reported in Pathein (median = 60) and Pyay (median = 25) were much higher than those reported by FSW in other townships.

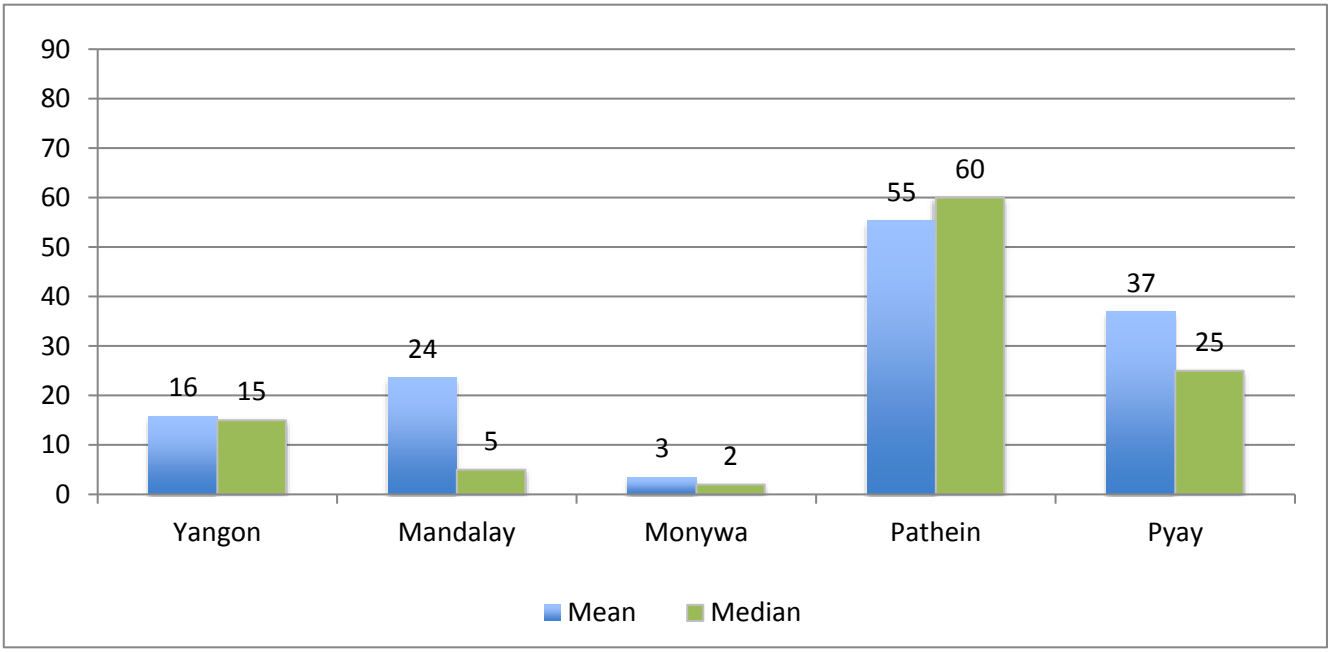
This result is consistent with the higher number of days worked in a month reported by respondents in this group and the moderately high HIV prevalence (11%) measured in both sites. FSW in Yangon reported the second lowest number of clients in the last month, a median of 15 clients a month. Compared to the median number of days worked in a month, this suggests that many FSW only have one client per working day.

The responses from Mandalay FSW appear more skewed. The median number of clients in the last month was 5 compared to a mean of 24. This suggests that a portion of FSW respondents who had more than 5 clients in a month tended to report a very high number of clients.

As observed for the number of clients in the last working day, the lowest number of clients in the last month was reported by FSW in Monywa. The very low number of clients (median = 2) compared to the number of days worked in a typical month (median = 6) suggests that on some days, FSW solicit clients but do not always get paying clients. Further exploration of the data showed that about 15% of respondents did not have a client in the last month. Their response of 0 would affect the medians and means and skew the results.

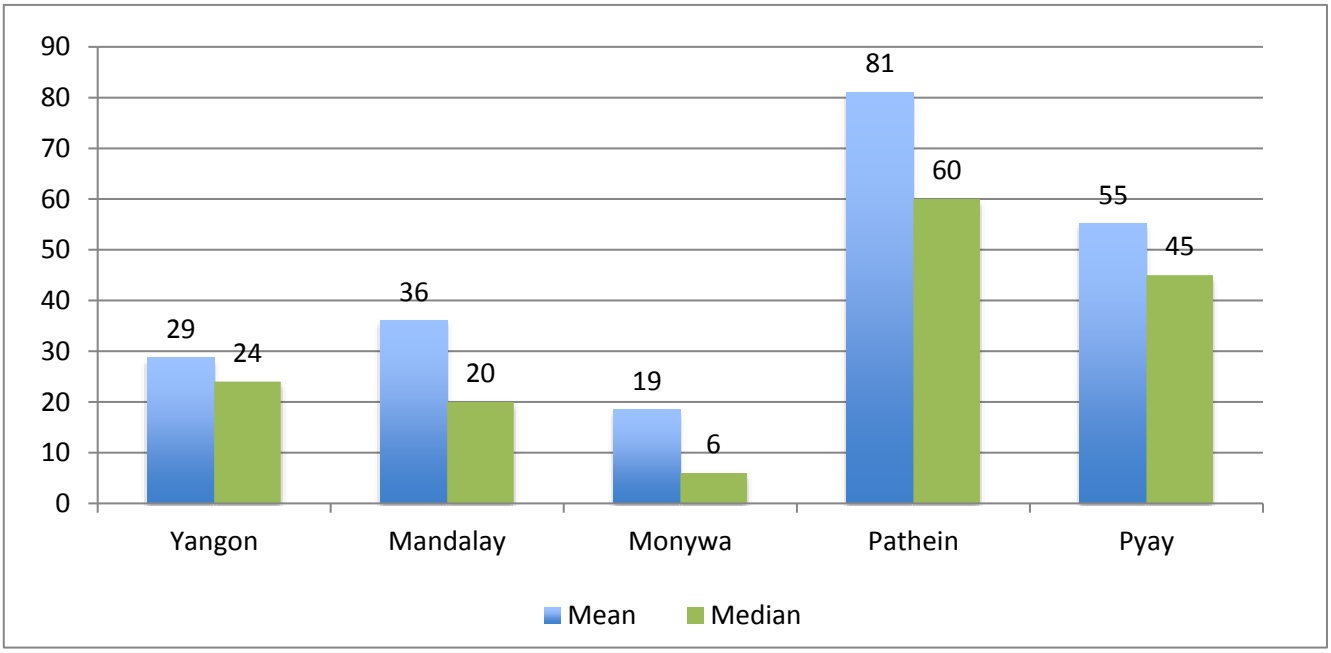
When the monthly volume of clients was calculated using the number of working days in a typical month and the number of clients on the last working day, a much higher client volume results in most townships. Differences in the number of clients reported in a month compared to a value calculated on estimates of 'typical' working time periods, suggest some month to month variation in client volume and potential recall error associated with asking the questions in different ways.

Figure 37: Mean and median number of clients in the past one month - reported by FSW respondents



Denominator: All respondents

Figure 38: Mean and median number of clients in a month - calculated

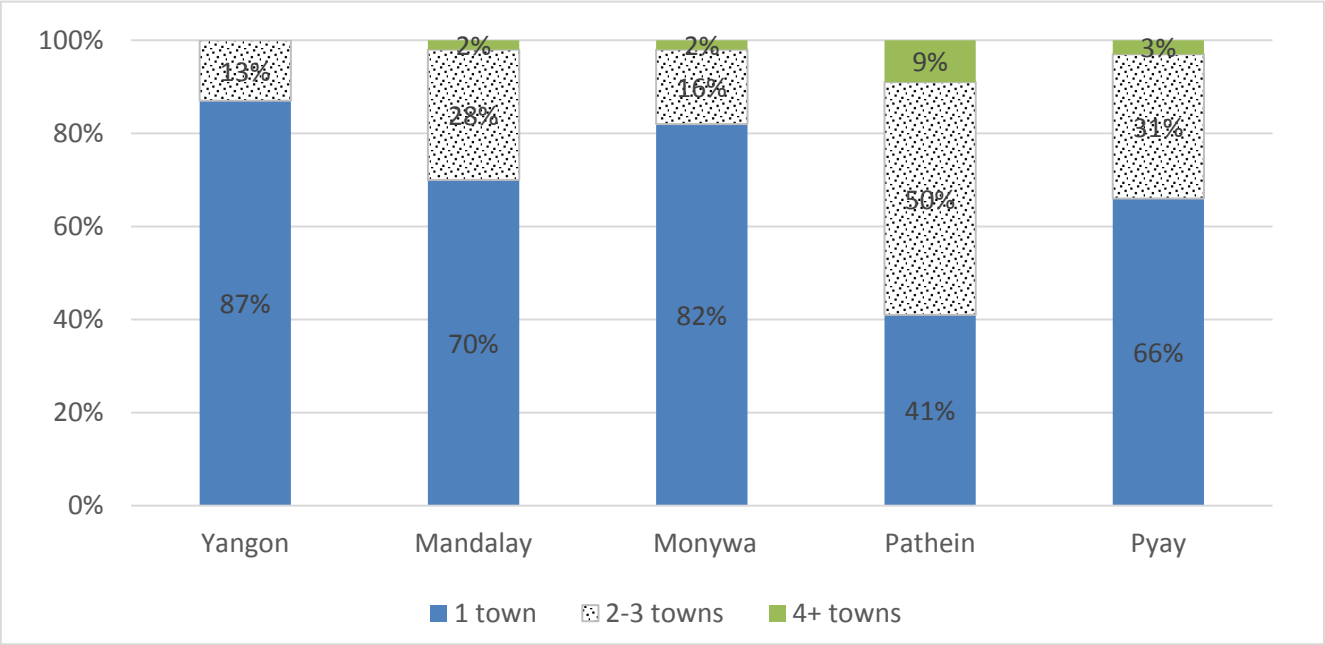


Note: This calculation multiplies the mean and median numbers of clients reported in the last working day by the mean and median numbers of working days in a month. Denominator: All respondents.

C. Mobility and sex work

Mobility and turnover among FSW, especially those who work in entertainment establishments, is commonly described by local service providers who work with FSW. Many FSW describe working in the same establishment for a few months before moving to another place. Respondents were asked whether they had sold sex in a town other than the survey city in the last 12 months. The greatest degree of mobility was found in Pathein, with more than half of respondents having had sold sex in another town. Lower reported mobility in Yangon (13%) may be the result of masked FSW movement between different townships in the larger metropolitan area considered to be Yangon.

Figure 39: Number of towns where FSW respondents sold sex in the last 12 months

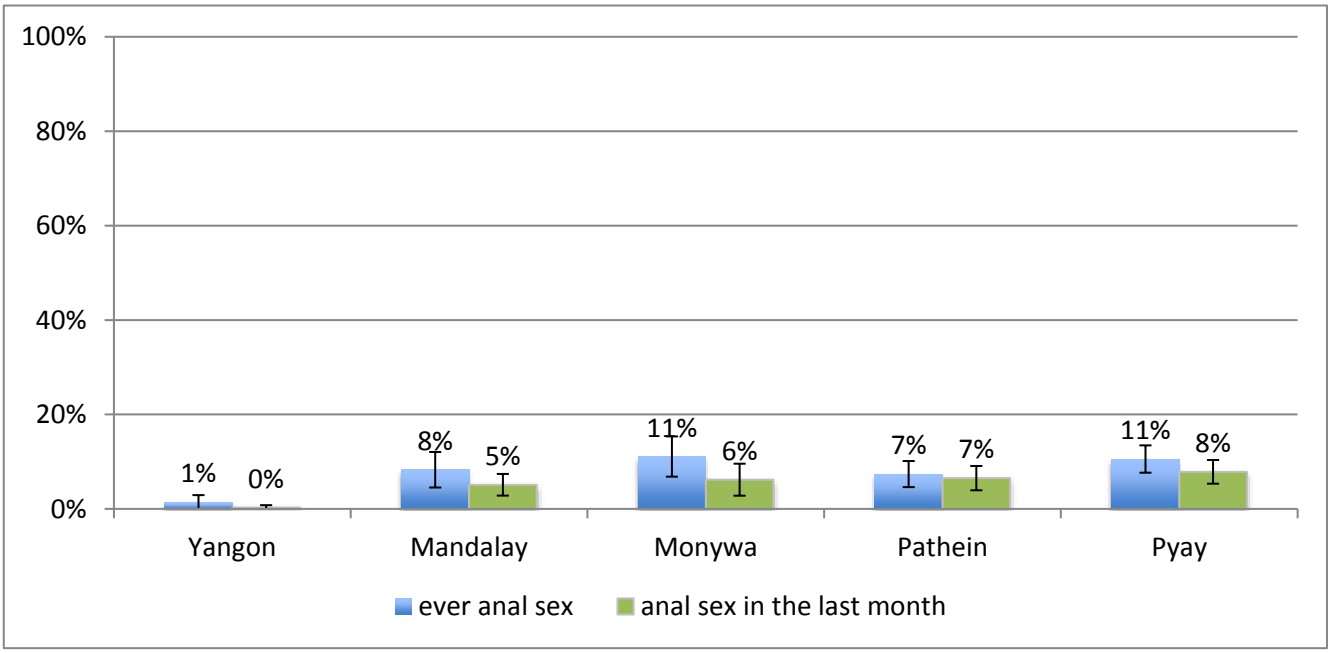


Denominator: All respondents

D. Anal sex with clients

The probability of acquiring HIV is higher with anal sex compared with other sex acts. Respondents were asked if they ever had anal sex and whether they had anal sex with a client in the last month. This sexual practice was not commonly reported by FSW respondents. The reported frequency of anal sex with clients was lowest in Yangon. Between 8-11% of FSW in the other four sites reported having had anal sex with a client, and a majority of those who had ever had anal sex with a client reported recent anal sex with a client (5-8% of all respondents).

Figure 40: Proportion of FSW respondents reporting anal sex with clients

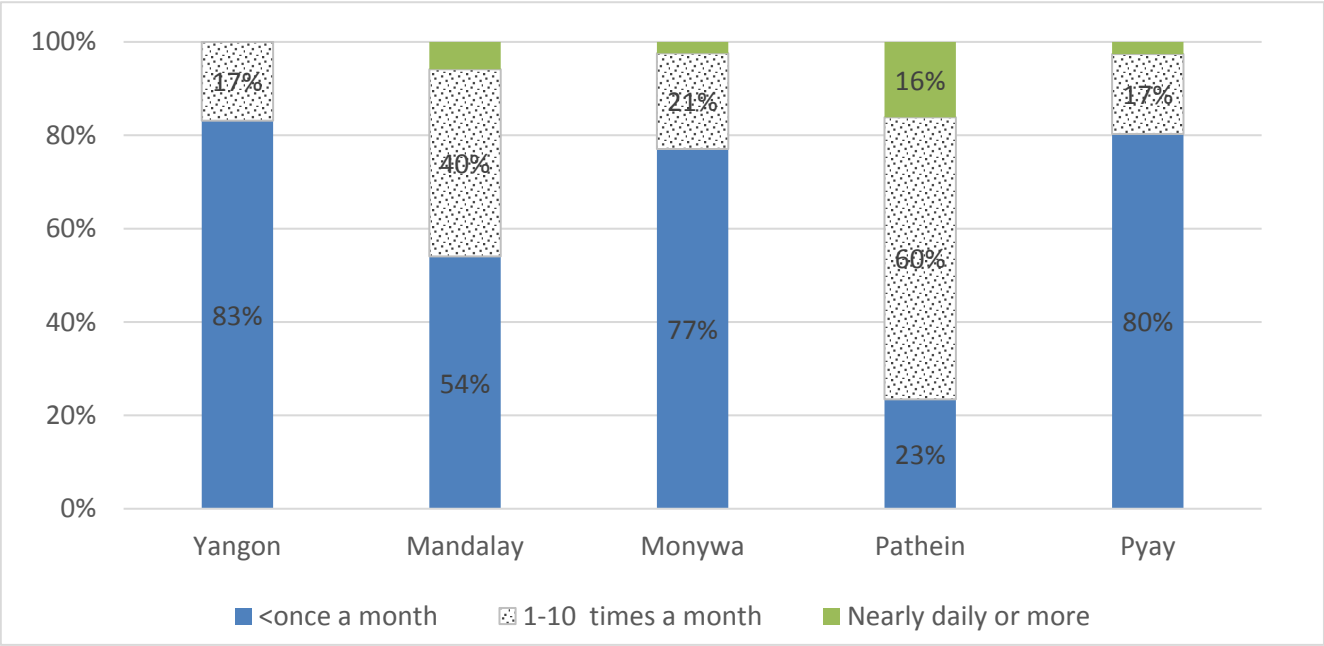


Denominator: All respondents

E. Alcohol use

Alcohol and drug use can increase risk taking behavior or reduce the effectiveness of FSW's ability to negotiate condom use with clients. Very few respondents in Yangon, Mandalay, Monywa, and Pyay reported daily use of alcohol in the last 12 months. The proportion who used alcohol nearly daily or more was slightly higher in Pathein, at 16%. Similarly, the proportion of FSW respondents who used alcohol more than once a month was much higher in Pathein than any other site.

Figure 41: Frequency of alcohol use in the past 12 months reported by FSW respondents



Denominator: All respondents

Respondents were also asked whether alcohol use was used specifically to make sex work easier. In general, sites where alcohol use was more frequent were also the sites where respondents reported using alcohol to make sex work easier. More than 50% of FSW in Pathein used alcohol for this purpose, compared to 27% in Mandalay, and less than 20% in Pyay, Yangon, and Monywa. Higher levels of alcohol used to cope with selling sex in Pathein is consistent with many more working days and much higher clients per month reported.

9. Condom use practices

A. Condom use with clients

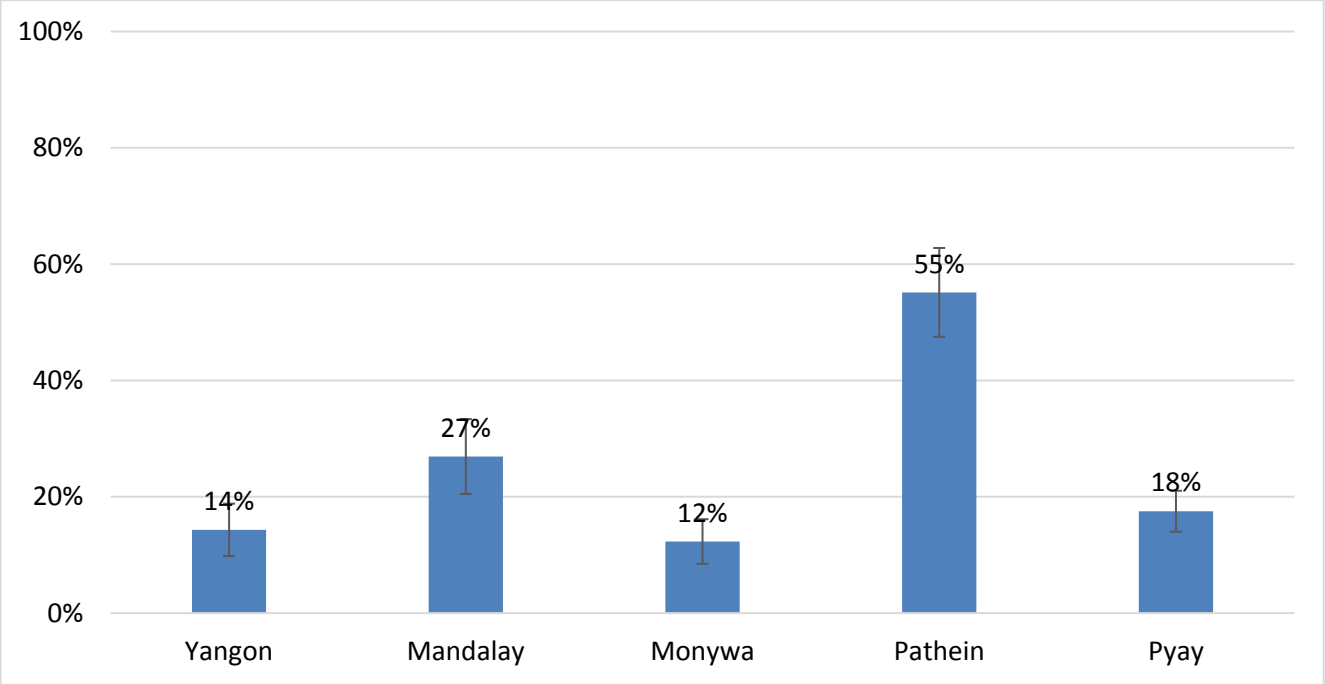
The standard question to measure condom use adopted for global AIDS response and progress reporting (GARPR), asks whether FSW used condoms at last sex with a paying client. In Yangon, Pathein, and Pyay at least 90% of respondents used condoms at last sex with a client. Condom use at last sex was reported by 79% of FSW respondents in Mandalay and 54% in Monywa.

The "last time" timeframe allows for easier recall by respondents but may be biased toward over-reporting due to social desirability bias. In addition to last time condom use, respondents were also asked to describe the frequency with which they used condoms in the last month.

Levels of consistent condom use with clients in the last month varied widely by site but were correlated with reported condom use at last sex with a client. In general, the sites with the highest proportion of last time condom use had the highest proportion of respondents who sometimes or always used condoms with clients in the last month. In Yangon and Pyay, more than 80% of respondents always used condoms with clients.

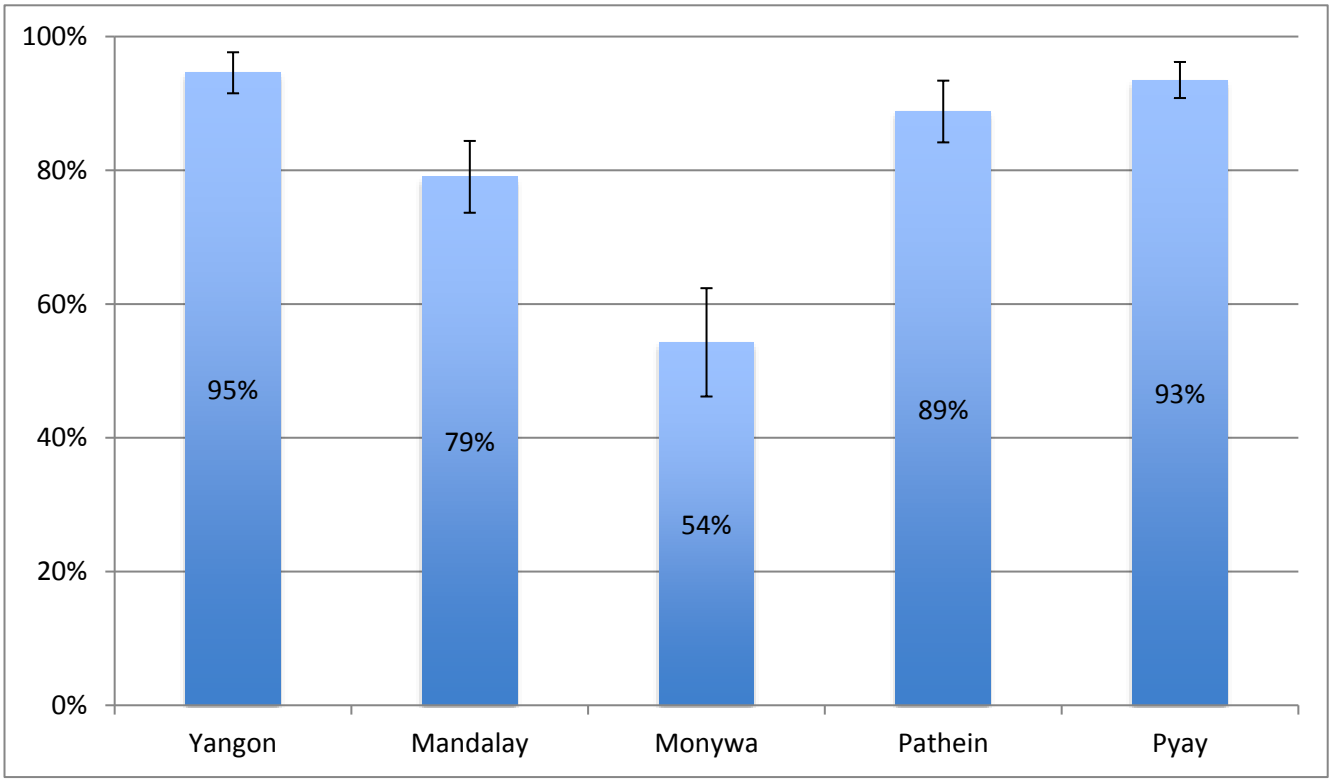
In Mandalay, Monywa, and Pathein this proportion was between 36-45%. In Monywa, nearly one third of respondents reported never using condoms with clients, by far the highest proportion of any survey site.

Figure 42: Proportion of FSW respondents who used alcohol to make sex work easier in the last 12 months



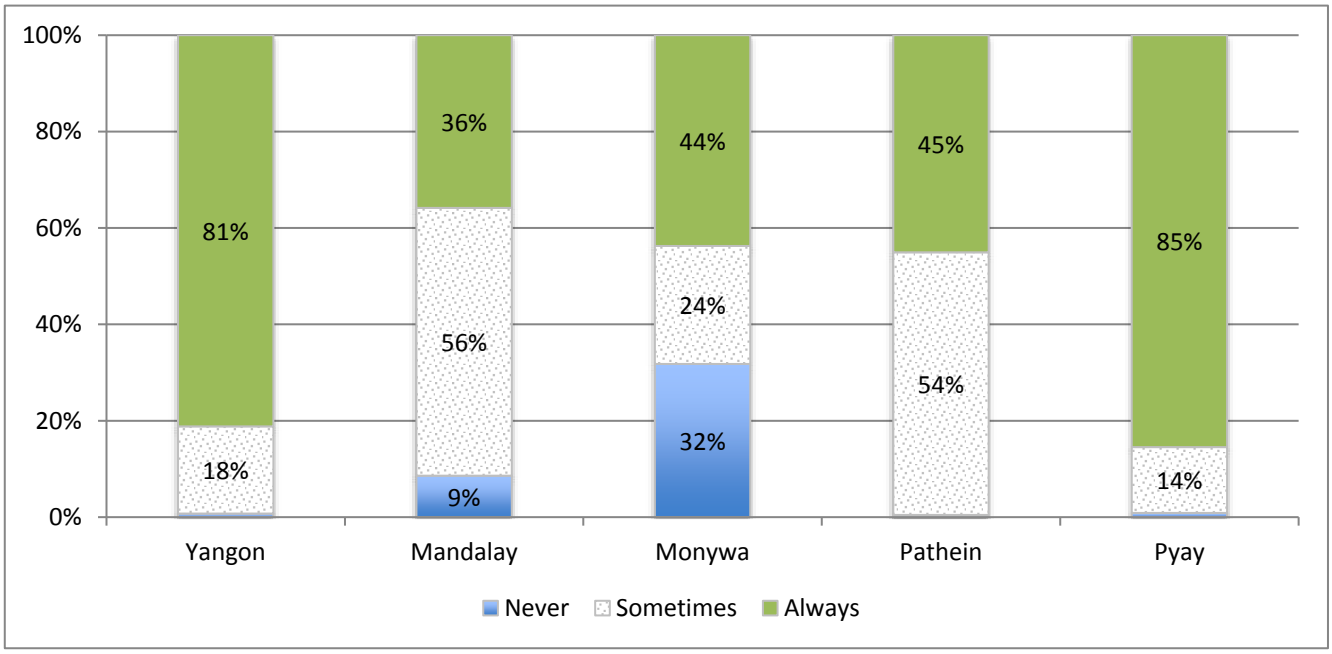
Denominator: All respondents

Figure 43: Condom use at last sex with client reported by FSW respondents – GARPR indicator



Denominator: All respondents

Figure 44: Consistency of condom use with client in the last month reported by FSW respondents

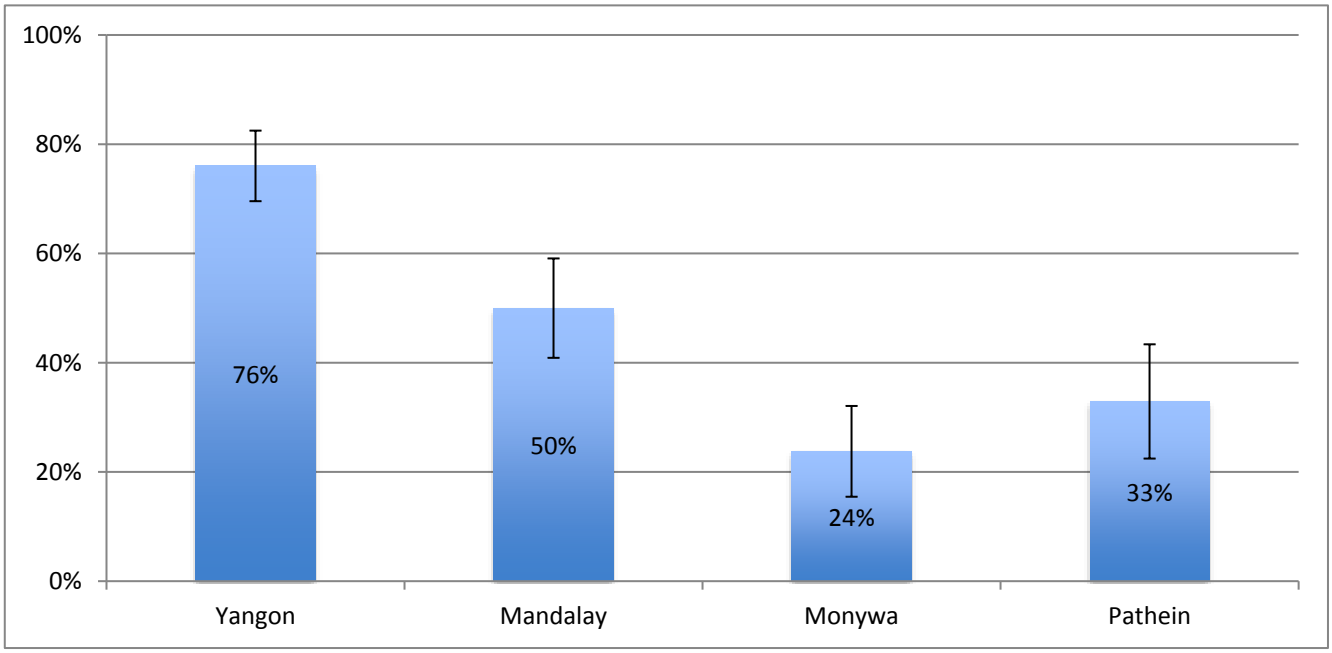


Denominator: All respondents

B. Condom use with regular, non-paying partners

The proportion of FSW reporting use of condoms with regular partners was lower than the proportion reporting condom use with clients, both at last sex and consistent use in the past one month. Condom use at last sex with a regular partner was highest in Yangon (76%) and lowest in Monywa (24%). In all sites, the proportion using condoms at last sex with a regular partner was more than 20 percentage points lower than condom use at last sex with a client.

Figure 45: Proportion of FSW respondents using condoms at last sex with regular partners[14]

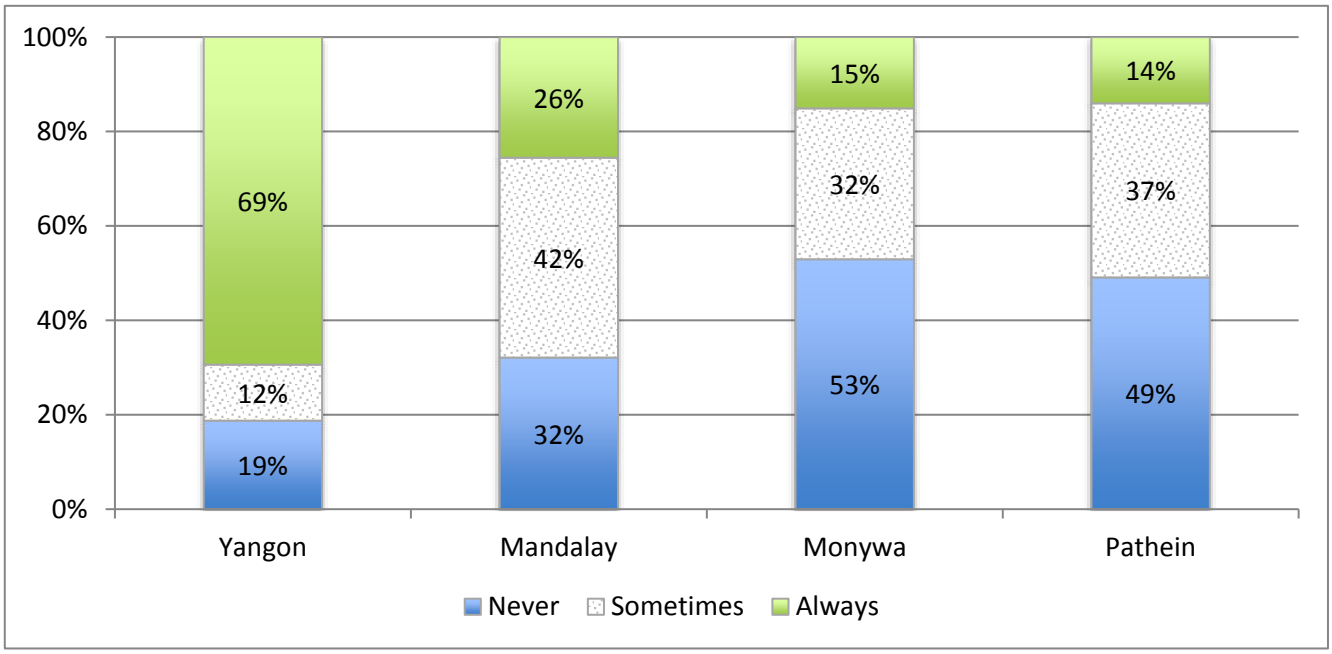


Denominator: Those who had sex with a regular partner in the past one month

[14] Results for Pyay could not be run with RDS-A.

In Monywa, Pathein, and Pyay about half of FSW respondents reported never using condoms with their regular partner in the past one month. This proportion was 32% in Mandalay and 19% in Yangon.

Figure 46: Consistency of condom use by FSW respondents with regular partners[15]



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

Lower levels of condom use with regular partners suggests that transmission between FSW and their regular partner remains an important area for prevention messaging to address.

C. Condom use under the influence of alcohol

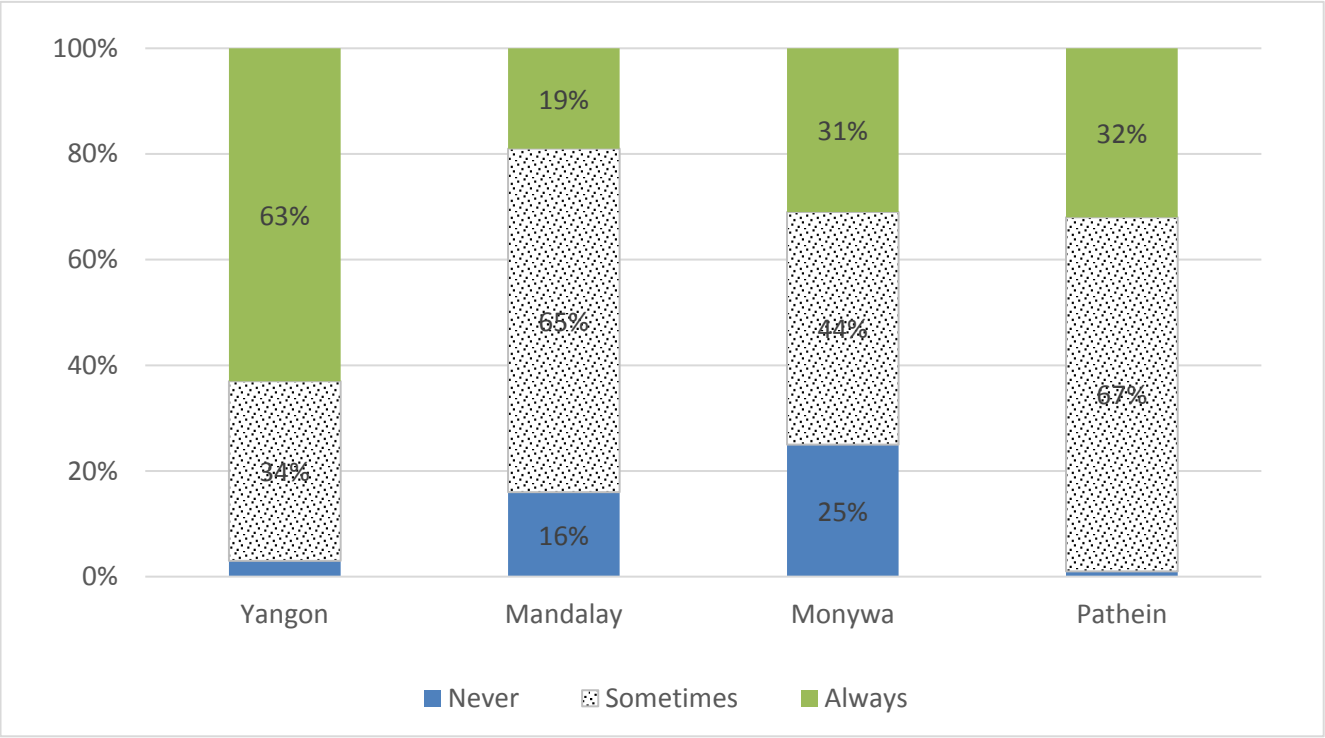
When asked about condom use practices while having sex under the influence of alcohol, nearly two-thirds of 46 FSW in Yangon reported always using condoms, compared to one-fifth in 108 Mandalay, and about one third of 50 in Monywa and 228 in Pathein. In all five sites, a smaller proportion of FSW reported always using condoms with clients when having sex under the influence of alcohol compared with the overall proportion of FSW who reported consistent condom use with clients (see Figure 47).

Less than 5% of FSW in Yangon, Mandalay, Monywa, and Pyay ever used drugs for non-medical purposes. In Pathein, 14% of respondents reported ever using drugs for non-medical purposes. In all sites, except Mandalay, nearly 100% of those who reported ever using drugs used a non-injecting method.

In Mandalay, 25% of the FSW who reported ever using drugs for non-medical purposes, administered their drugs through injection. Consistent with these findings, less than 5% of respondents in all sites exchanged sex for drugs in the last 12 months. Exchanging sex for drugs might be done for either their own use or the use of a sexual partner.

[15] Results from Pyay could not be run with RDS-A

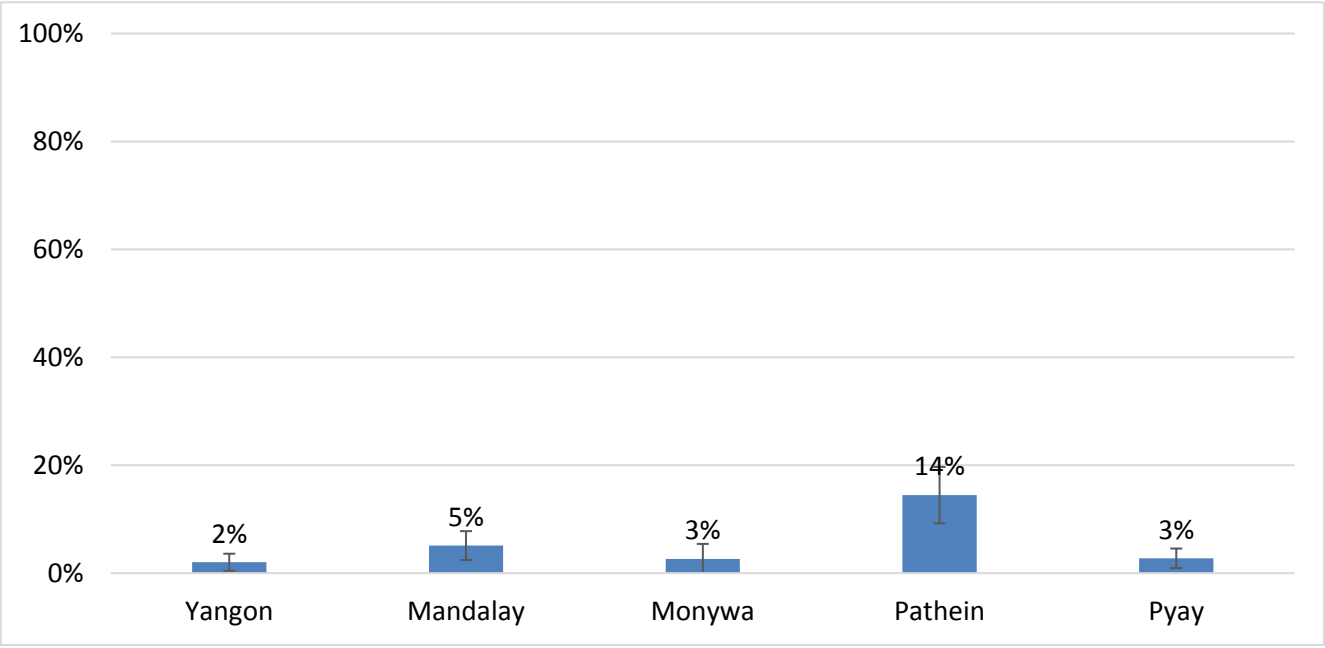
Figure 47: Consistent condom use when having sex under the influence of alcohol in the last 12 months reported by FSW respondents



Denominator: Those who had sex under the influence of alcohol in the last 12 months

Due to the severity of the injection drug use related HIV epidemic in Myanmar, it is critical to understand the overlap between sex work and injection drug use networks.

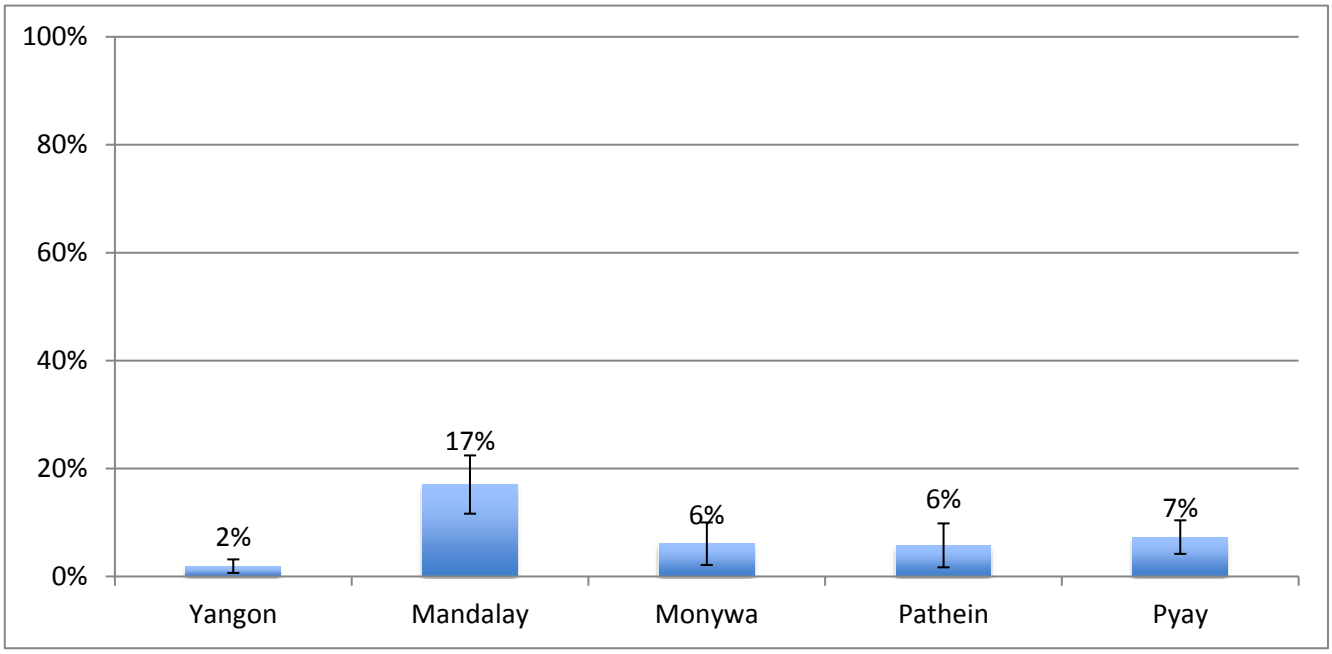
Figure 48: Proportion of FSW respondents who ever used drugs for non-medical purposes



Denominator: All respondents

We found that in Mandalay, 17% of FSW had ever had a sexual partner who injected drugs. This was significantly higher than the proportion with an injecting partner in the other four sites. This result was expected given the relatively large number of PWID in Mandalay compared to the other sites. Upon further analysis, ever having a partner who injected drugs was not correlated with being HIV positive among FSW in Mandalay.

Figure 49: Proportion of FSW respondents ever had a partner who injected drugs

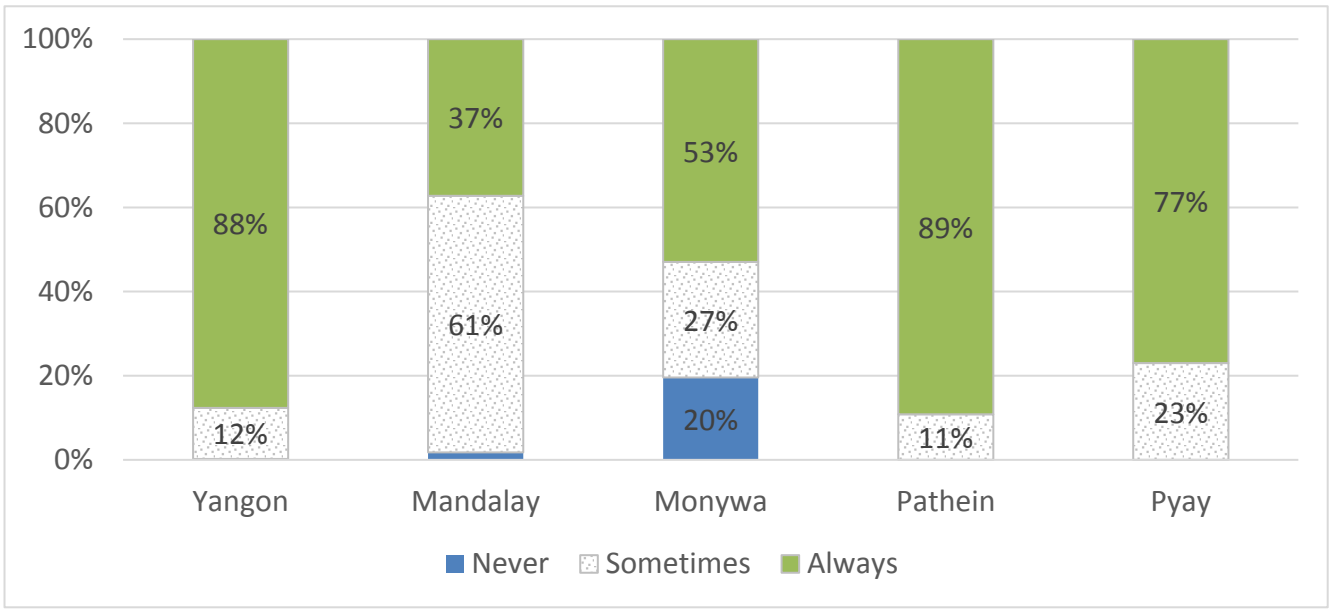


Denominator: All respondents

D. General condom accessibility/availability

Two important factors contributing to increased condom use are easy access and wide availability whenever they are wanted or needed. In Yangon and Pathein, nearly 90% of FSW respondents said they always could get a condom when they wanted or needed them. This is important considering the high HIV prevalence measured in Yangon and the large numbers of clients reported in Pathein. In Pyay, 77% of FSW reported always being able to get condoms when wanted or needed. Lower frequency of condom use reported in Monywa may reflect lower condom accessibility in Monywa, as 20% of respondents said that they could never get condoms when they wanted or needed them. In Mandalay, condom accessibility also appeared to be a problem, with 61% of respondents reporting they were only sometimes able to get condoms when the wanted or needed them.

Figure 50: Frequency of condom availability whenever they are wanted or needed by FSW respondents

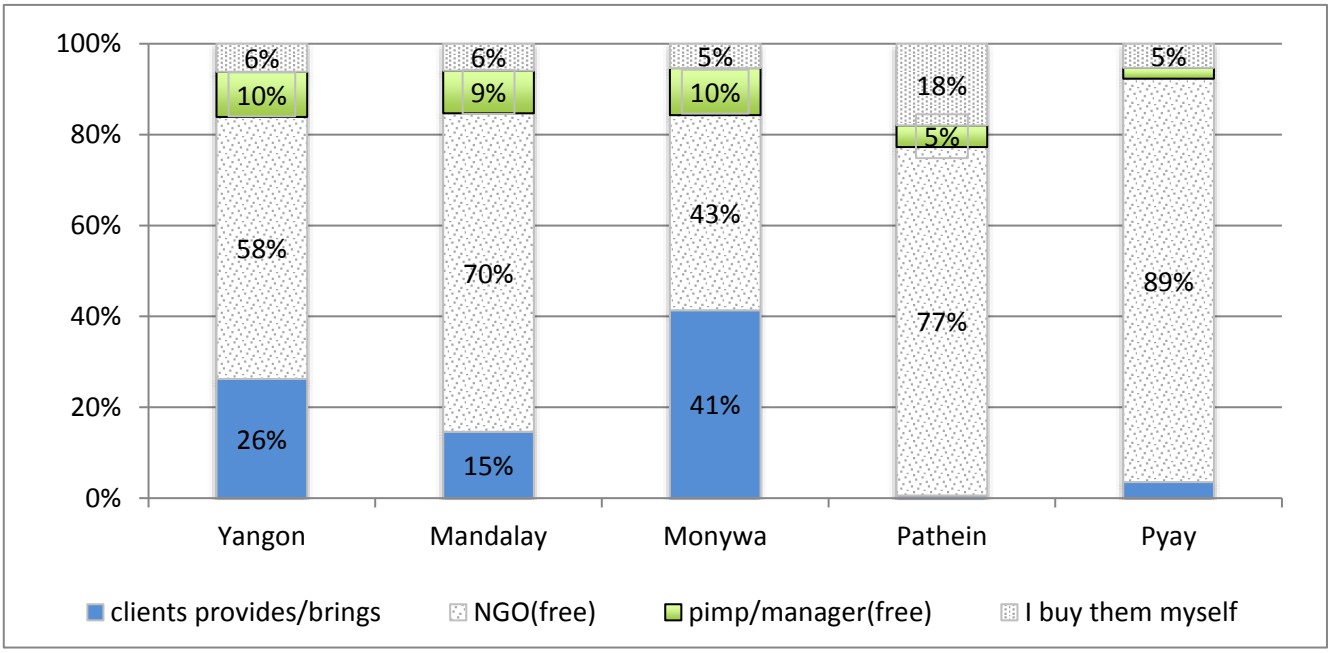


Denominator: All respondents

A variety of common sources for condoms were described by respondents in each site. This mix of places to get condoms reflects social norms of clients to use condoms, as well as programme coverage, and the level

of motivation of respondents to use condoms to the extent that purchasing condoms is required. In Monywa, where condom use was relatively low and access to condoms was rated as relatively poor, 41% of FSW said that their main source of condoms was the client. Only 43% of FSW in Monywa relied mainly on free condoms distributed by NGOs and 5% of respondents purchased condoms themselves.

Figure 51: Most common places to get condoms in the last year reported by FSW respondents

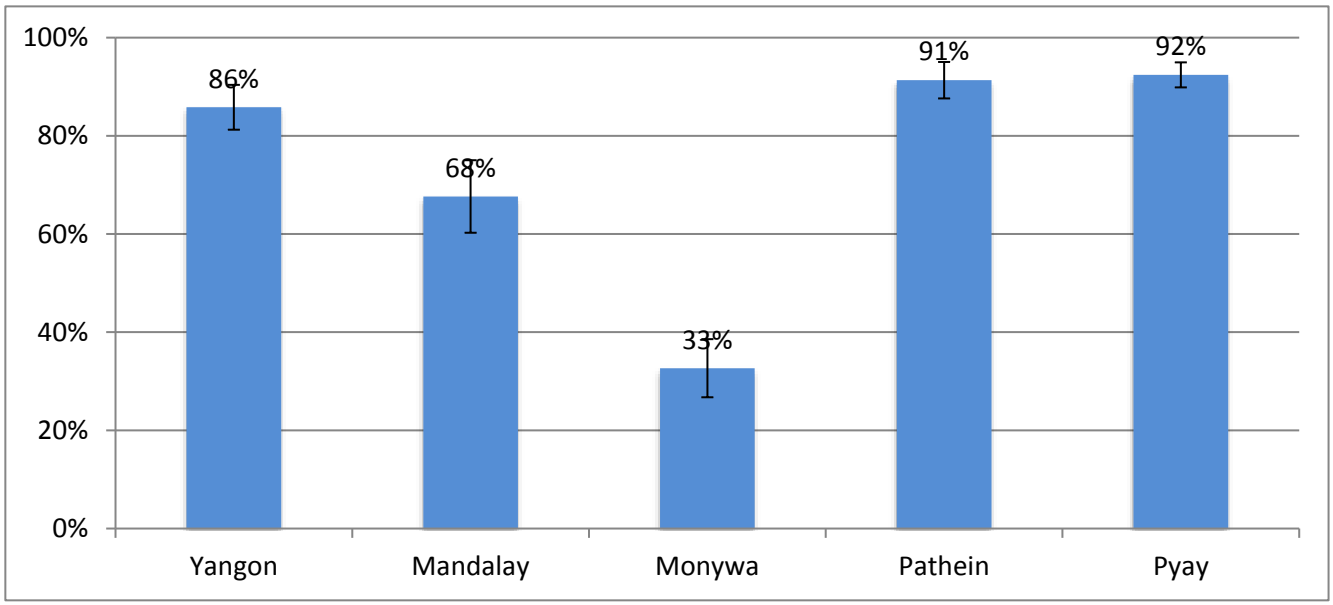


Denominator: All respondents

In Pathein, where percent of FSW reporting condom use was high and sex work intensity was also high, FSW respondents reported that most of time they obtained their condoms from NGOs (77%) or bought condoms themselves (18%). In Pyay, nearly 90% of respondents' main source of condoms was an NGO. In larger metropolitan areas a greater mix of sources was reported. Condoms from NGOs were the main source of condoms for a majority of respondents, but a small but substantial portion of respondents depended on condoms from their clients.

Having a reliable source of condoms when having sex with clients is one aspect of condom availability. Those FSW who obtain condoms from NGOs or purchase condoms themselves must have condoms on hand to use.

Figure 52: Proportion of FSW respondents who usually carry condoms



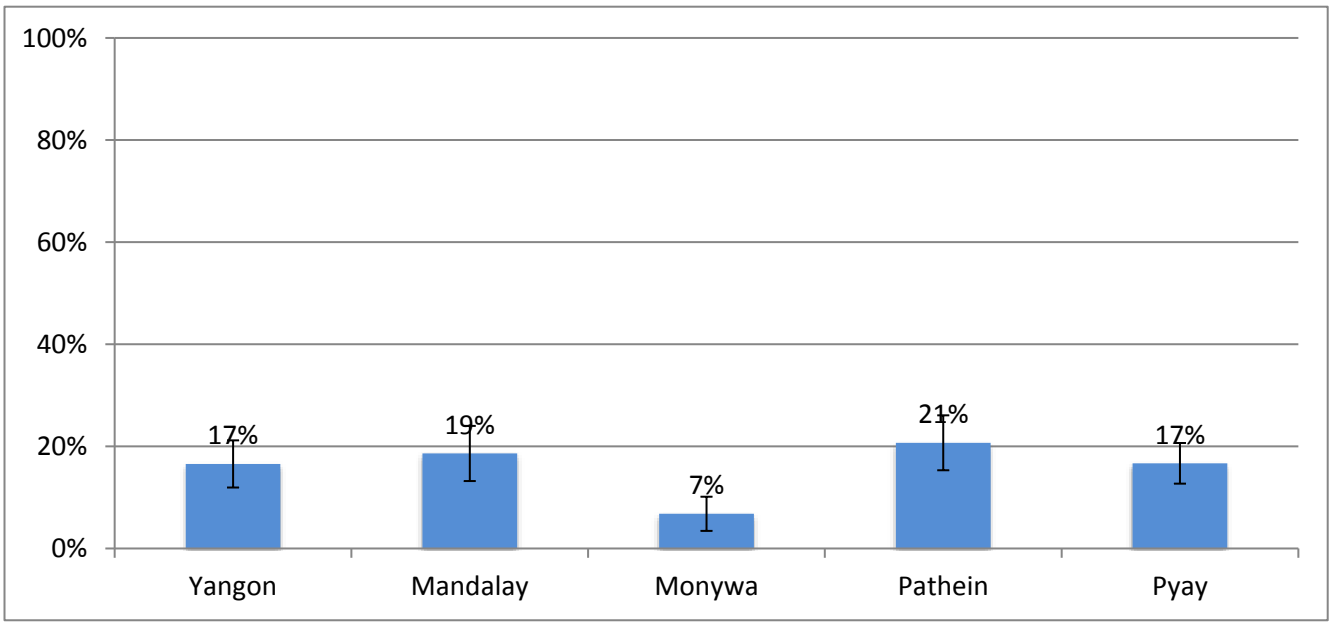
Denominator: All respondents

Between 86-92% of respondents in Yangon, Pathein, and Pyay reported usually carrying condoms with them. A significantly smaller proportion of respondents in Mandalay usually carried condoms (68%) and only one third of respondents in Monywa reported usually having condoms with them. One reason FSW do not usually carry condoms is fear that police may stop them and use the fact of carrying condoms as evidence of being a sex worker. However, at the site level, the frequency of being detained or arrested by police for being a sex worker did not correlate with respondents usually carrying condoms with them.

E. Condom breakage and use of lubricants

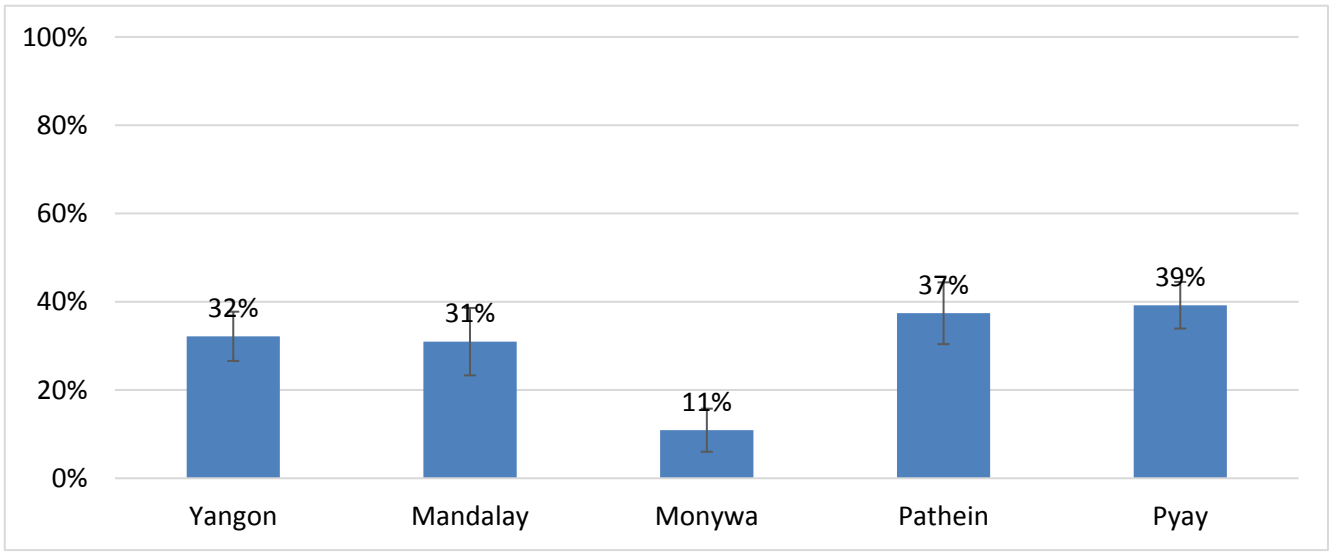
The effectiveness of condoms to prevent transmission of HIV requires condoms to be of sufficient quality and to be used properly. Condom breakage in the last month, which may be an indicator of poor quality or improper use, was reported by 17-21% of FSW in Yangon, Mandalay, Pathein and Pyay. Condom breakage was reported by a smaller proportion of FSW in Monywa, possibly due to the lower numbers of sex acts with clients in which condoms were used as reported by FSW in this site. Considering that the mean number of clients in the last month ranged from 15 to 55 across the five sites, this level of condom breakage appears high on a per-client basis. Between 31-39% of respondents in Yangon, Mandalay, Pathein and Pyay reported using lubricants at last sex with a client. Only 11% of respondents used lubricants at last sex in Monywa.

Figure 53: Proportion of FSW respondents who had a condom break in the last month



Denominator: All respondents

Figure 54: Proportion of FSW respondents who used lubricants at last sex with client



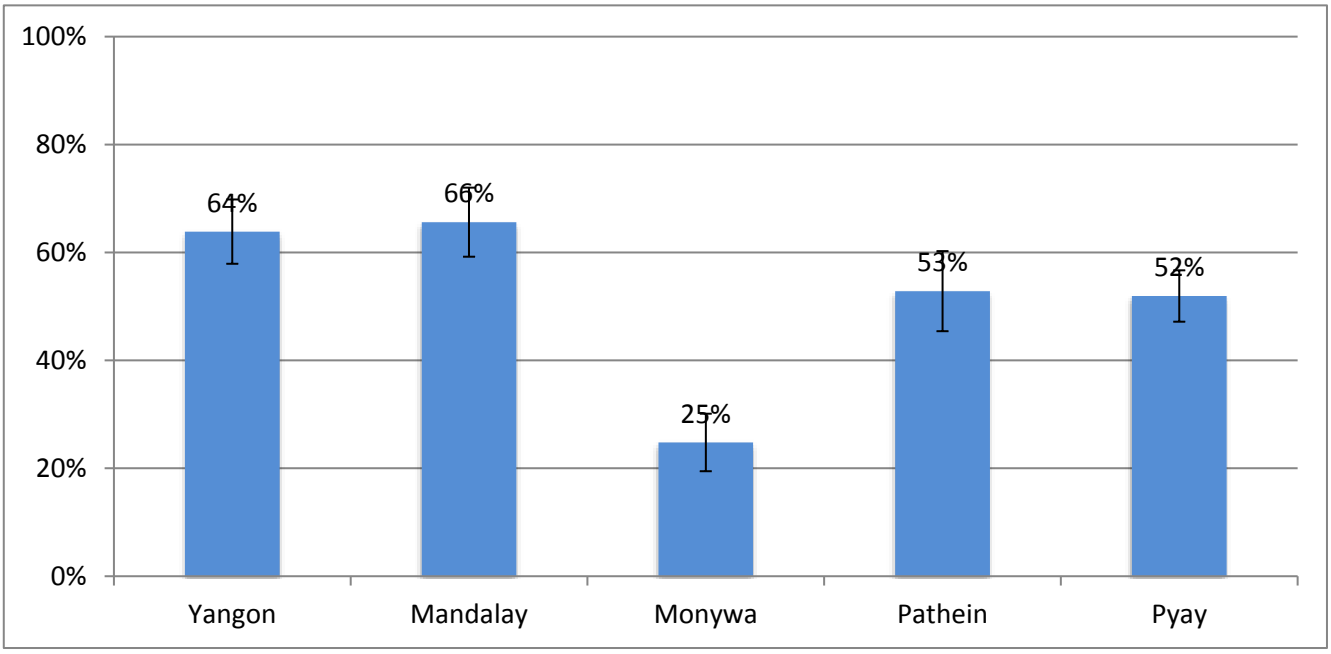
Denominator: All respondents

10. Service utilization and knowledge

A. Knowledge of prevention and treatment

Knowledge of how HIV is transmitted, and effective methods of prevention is a necessary but insufficient component of effective prevention programming. The standard measure of comprehensive knowledge of HIV prevention and transmission is a composite of five knowledge questions to which respondents must give the correct answers. Against this measure, FSW respondents performed moderately well (50-60%) in Yangon, Mandalay, Pathein, and Pyay. Levels of knowledge were markedly lower in Monywa, where only 25% of respondents gave correct answers to all five questions.

Figure 55: Proportion of FSW respondents with comprehensive knowledge on HIV prevention and transmission – GARPR composite indicator



Denominator: All respondents

When looking at the responses to individual knowledge questions, the most commonly reported incorrect answer was the idea that HIV risk can be reduced by having sex with only one uninfected partner. The second most commonly incorrect answer was about knowing that mosquitoes cannot transmit HIV. For the other three questions, including the importance of condom use as a prevention measure, 90% or more of respondents gave the correct answer in all townships.

Respondents' awareness of treatment for HIV and AIDS may be critical for destigmatizing HIV and AIDS and encouraging individuals to know their HIV status. Compared to knowledge about methods of prevention, with a composite indicator of comprehensive knowledge ranging from 25-66%, more than three quarters of respondents in all sites had heard about a treatment for HIV and AIDS.

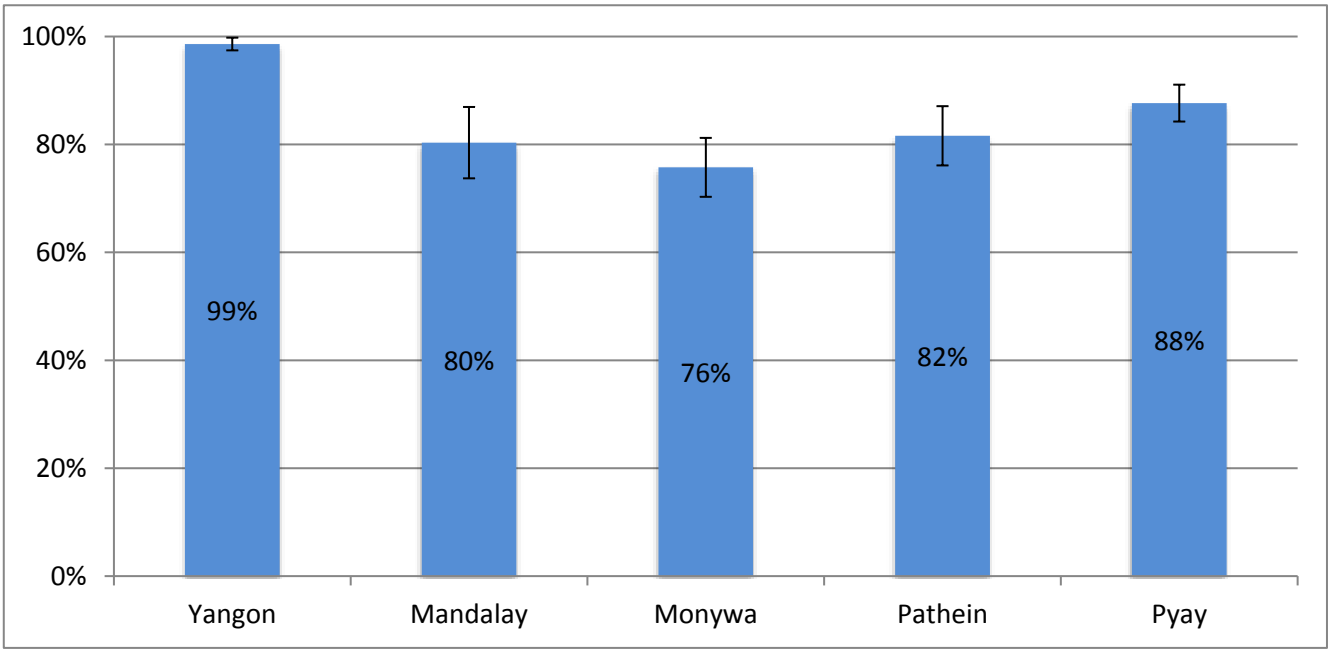
Respondents were asked to list the main sources of information about HIV and AIDS. Multiple responses to this question were allowed. The most common source was a health provider which included people at clinics or hospitals as well as those providing prevention services (e.g., NGO staff). In most sites, relatives or friends were the second most common source of information. In these figures, the area outlined by the radar graph, reflects the degree to which individuals receive information from multiple sources. For example, in Yangon, health providers are the dominant single source named by respondents, while in Pathein, a similar proportion of respondents (~80%) named health provider as a source of information but the area captured by the blue polygon indicates that many respondents named other sources of information.

Table 4: Proportion of FSW respondents giving correct answer to knowledge of HIV prevention and transmission questions included in the comprehensive knowledge measure

	Yangon	Mandalay	Monywa	Pathein	Pyay
Can reduce the risk with one uninfected partner	85%	93%	**62%**	**68%**	**78%**
95% CI	*(81-90)*	*(90-97)*	*(56-69)*	*(61-75)*	*(75-82)*
Mosquitoes cannot transmit	89%	84%	**57%**	83%	**78%**
95% CI	*(85-93)*	*(80-89)*	*(51-64)*	*(78-88)*	*(74-82)*
Can reduce the risk by using condoms every time	97%	95%	93%	99%	96%
95% CI	*(95-99)*	*(92-98)*	*(90-96)*	*(99-100)*	*(94-97)*
Sharing food cannot transmit	96%	95%	93%	97%	95%
95% CI	*(94-99)*	*(93-97)*	*(91-96)*	*(95-99)*	*(93-97)*
A healthy-looking person can have HIV	96%	96%	86%	93%	89%
95% CI	*(93-99)*	*(94-98)*	*(82-91)*	*(89-97)*	*(86-91)*

Bolded numbers highlight questions where correct knowledge was less than 80%

Figure 56: Proportion of FSW respondents who have heard of treatment for HIV and AIDS

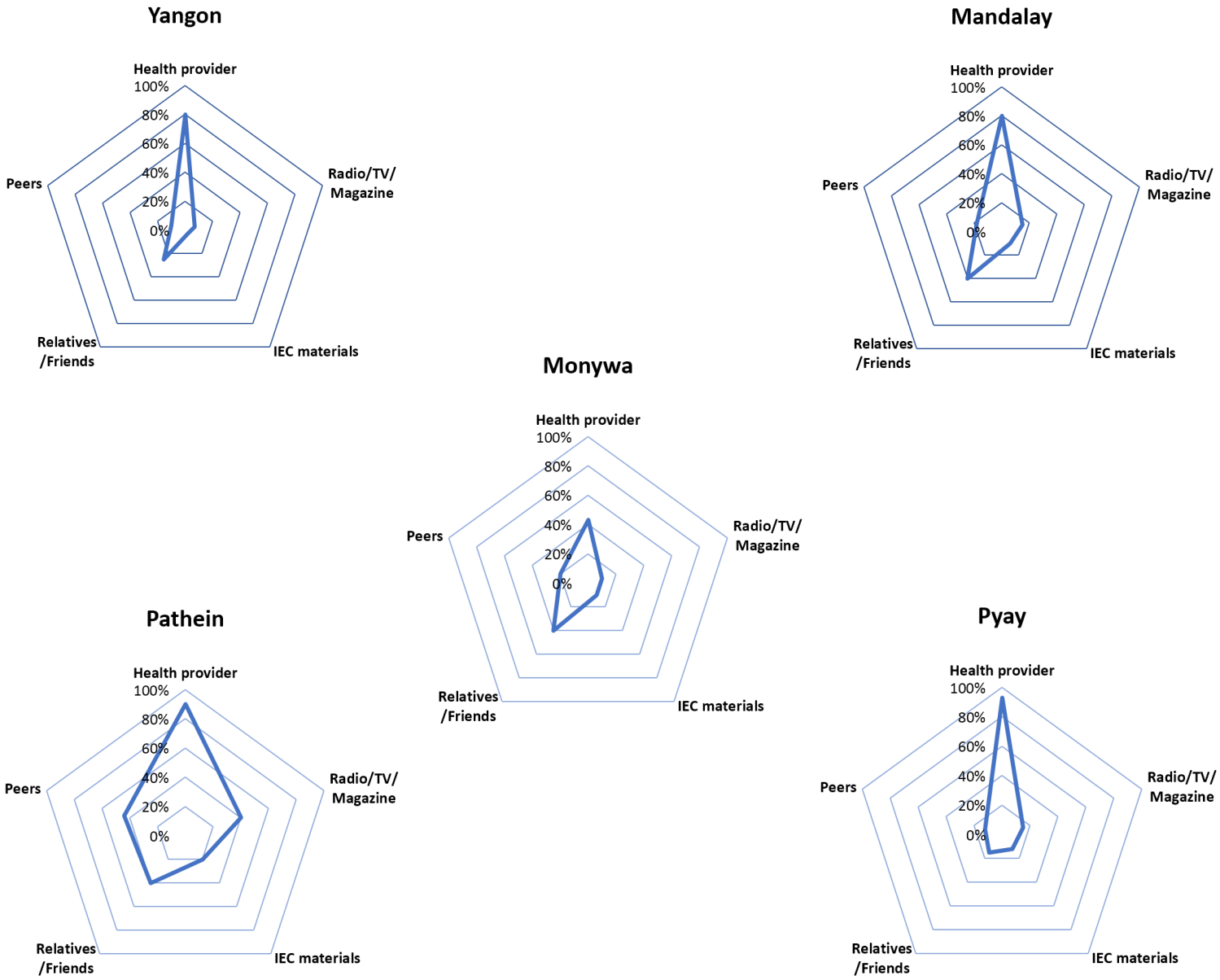


Denominator: All respondents

B. Contact with Prevention Programs

A key measure of programme effectiveness is the level of coverage achieved by prevention services. The standard measure used for GARPR is the proportion of FSW who received a condom from an outreach worker in the last 12 months and know a place for HIV testing. In both Pathein and Pyay, more than 90% of respondents met this definition of prevention coverage. Coverage levels were also relatively high in the two large metropolitan areas, Yangon (65%) and Mandalay (76%). Such high levels of coverage may be implausible and suggest that the sample may have over-represented individuals who were well known to outreach workers.

Figure 57: Main source of information about HIV and AIDS reported by FSW respondents

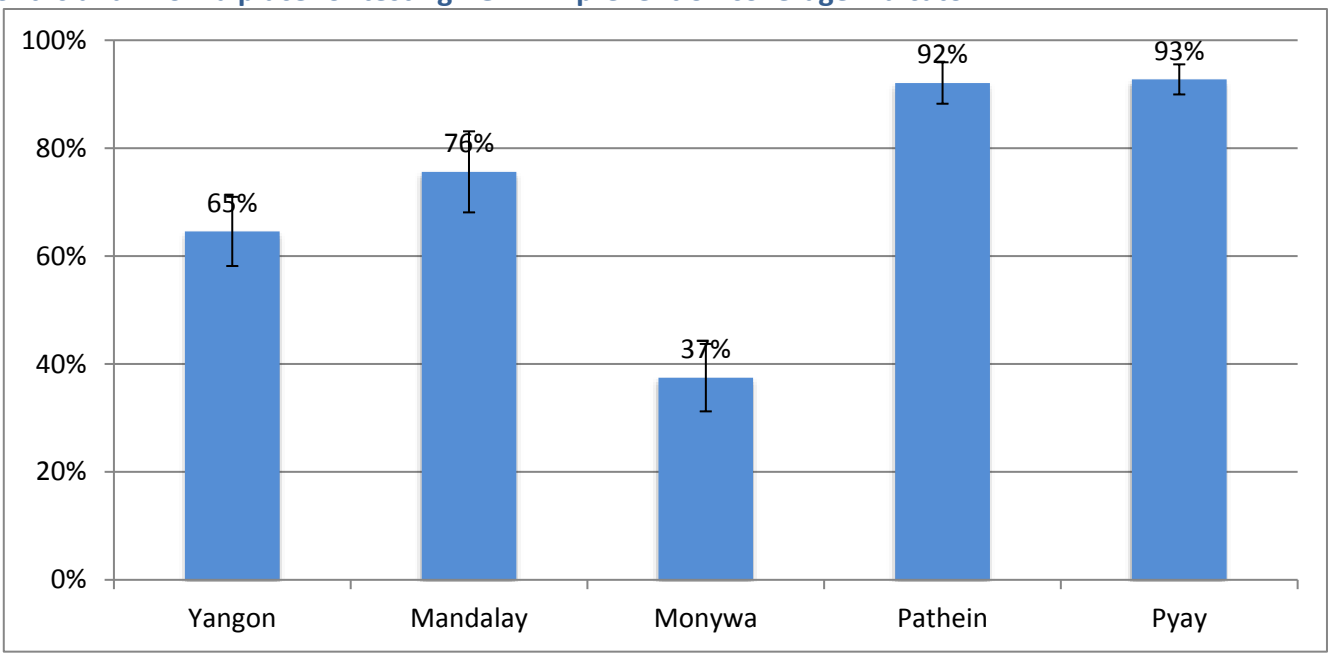


Denominator: All respondents

When prevention coverage is stratified by sex work typology, hidden FSW appear to have higher levels of coverage than visible or semi-visible FSW. Similarly, visible FSW have lower levels or the same levels of coverage as semi-visible FSW. This pattern is unexpected, as hidden FSW are perceived to be harder to reach with prevention services and by definition 'visible' FSW should be the easiest for outreach workers to make contact with because they are easy to identify.

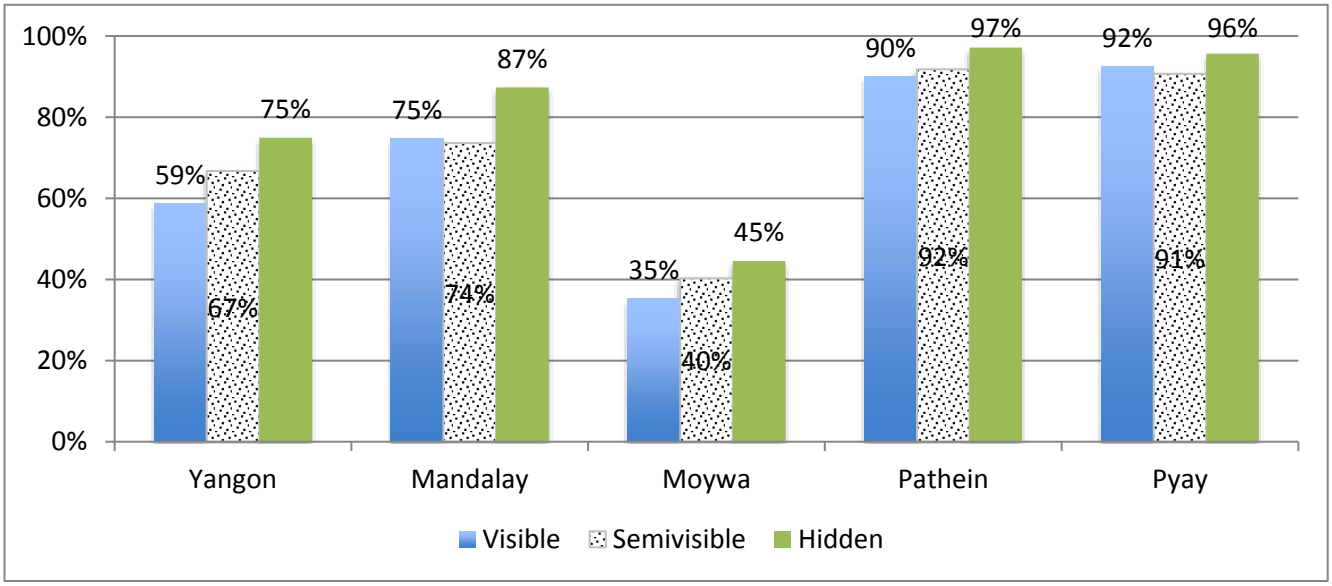
One interpretation of this result is that the operational definition of each typology does not classify FSW in a meaningful way. Another interpretation is that the network sampled in the surveys were influenced by their engagement in prevention programmes and the representativeness of all survey results should be interpreted with this in mind. The lowest levels of coverage were found in Monywa (37%) where services are newer and the part-time nature of sex work for many respondents may result in difficulty targeting women for prevention services or FSW being less motivated to seek prevention services.

Figure 58: Proportion of FSW respondents who received a condom from an outreach worker in the last 12 months and know a place for testing– GARPR prevention coverage indicator



Denominator: All respondents

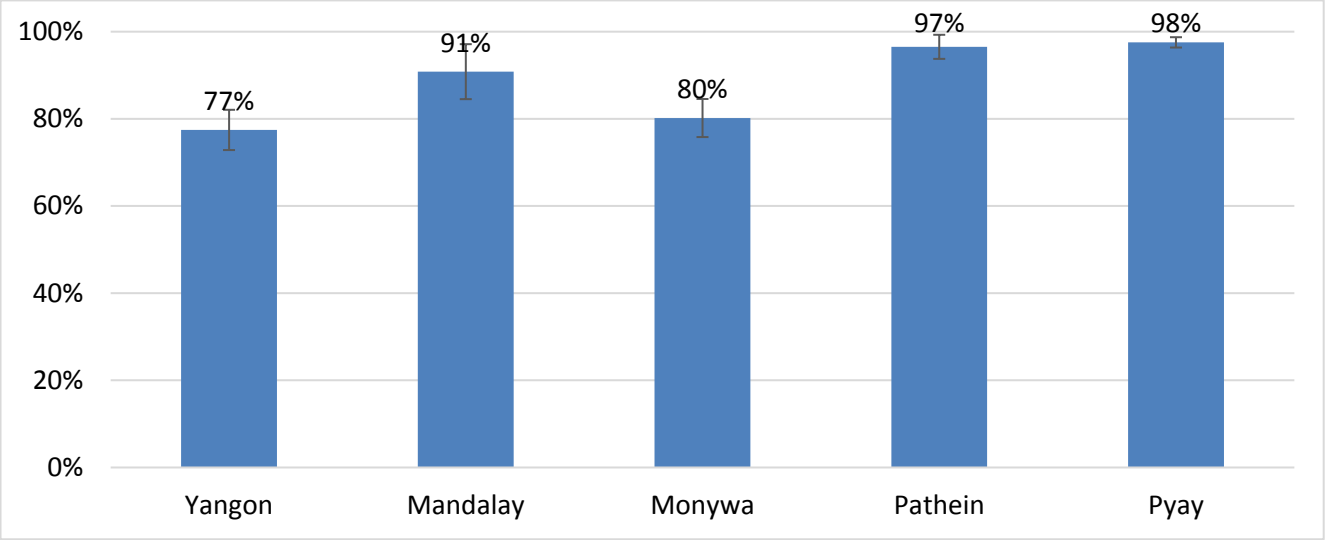
Figure 59: Proportion of FSW respondents who have received a condom in the last 12 months and know a place for testing, by sex work typology



Denominator: All respondents

When the GARPR prevention coverage indicator is broken into its two components, an important finding is that despite a larger number of places where respondents can go for testing and a longer standing programme of HIV testing, nearly one quarter of respondents in Yangon reported they did not know where they could get tested This is particularly important given the high HIV prevalence among FSW in Yangon, and the heightened need for testing, follow-up care, and immediate treatment initiation.

Figure 60: Proportion of FSW respondents who knew a place to go for HIV testing



Denominator: All respondents

When asked where they could go for HIV testing, FSW respondents named NGO clinics most often. Although 20% of respondents in Monywa didn't know where to go for HIV testing, those who did, could name more than one place (indicated by the area included in the blue outline of the radar figures).

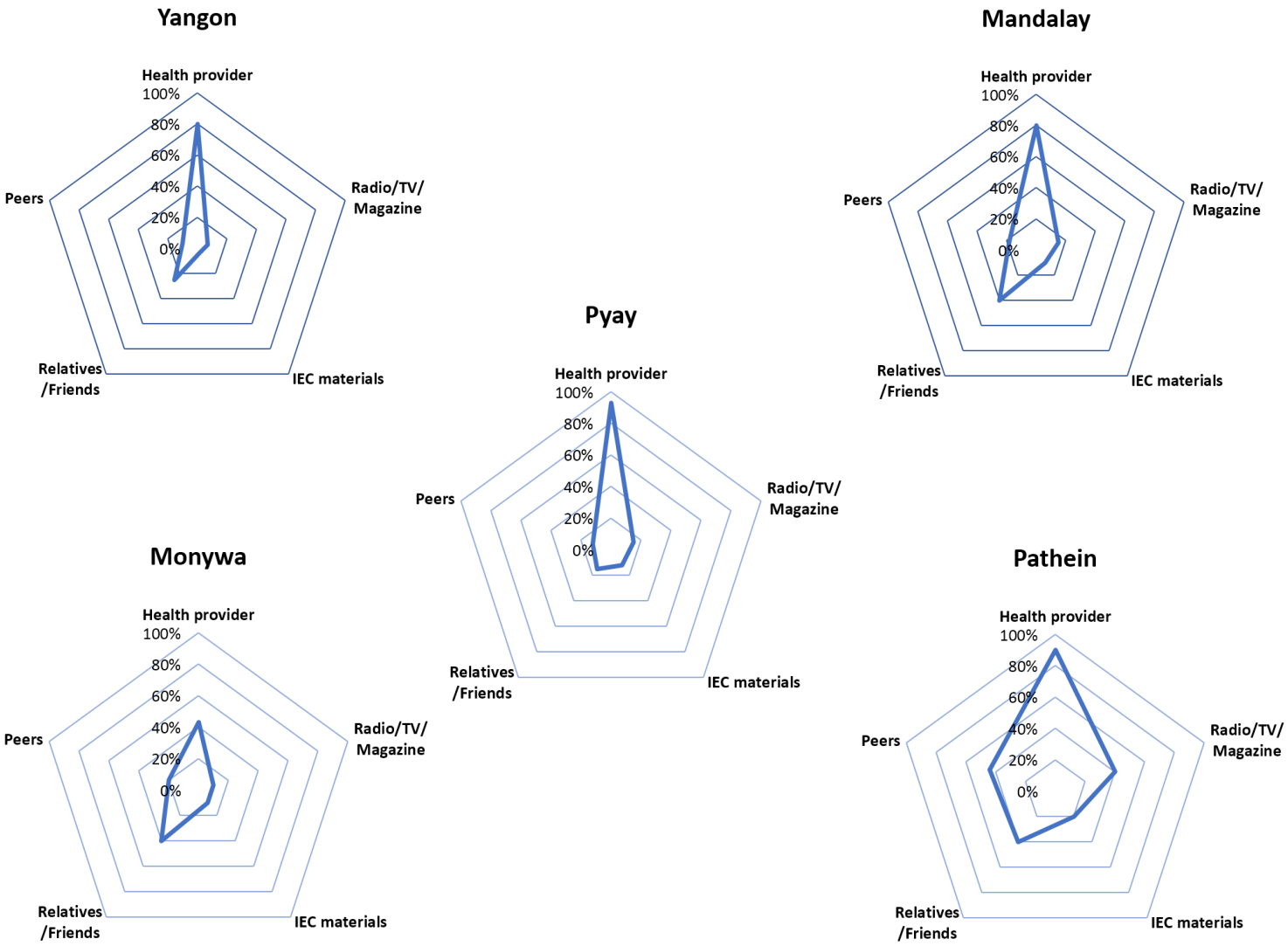
In addition to NGO clinics, FSW in Monywa described public sector clinics and private clinics as places they knew they could go for testing. In contrast, private clinics were almost never included among places cited by FSW respondents in Yangon, Pathein and Pyay. We also found that in Pathein and Pyay, sites where almost all respondents could name a place for HIV testing, services offered by the local AIDS/STD team (public sector) were commonly listed.

A large proportion of FSW in Pathein and Pyay reported receiving prevention commodities such as condoms or lubricants, indicating high levels of coverage through outreach. In Pathein, however, the proportion who received lubricants (54%) was much smaller than the proportion who received condoms (94%). In each site, in fact, the proportion who received lubricants was smaller than the proportion who received condoms.In terms of receiving prevention commodities, Yangon and Mandalay appeared to achieve more moderate levels of coverage.

In most sites, the proportion of individuals who received condoms from an outreach worker was almost the same as the proportion who knew a place for HIV testing. This suggests that those who receive outreach services also have information about important clinic-based services such as testing. Monitoring service utilization on a routine basis helps identify gaps gaps that need to be addressed for scaling up HIV testing and treatment services for key populations.

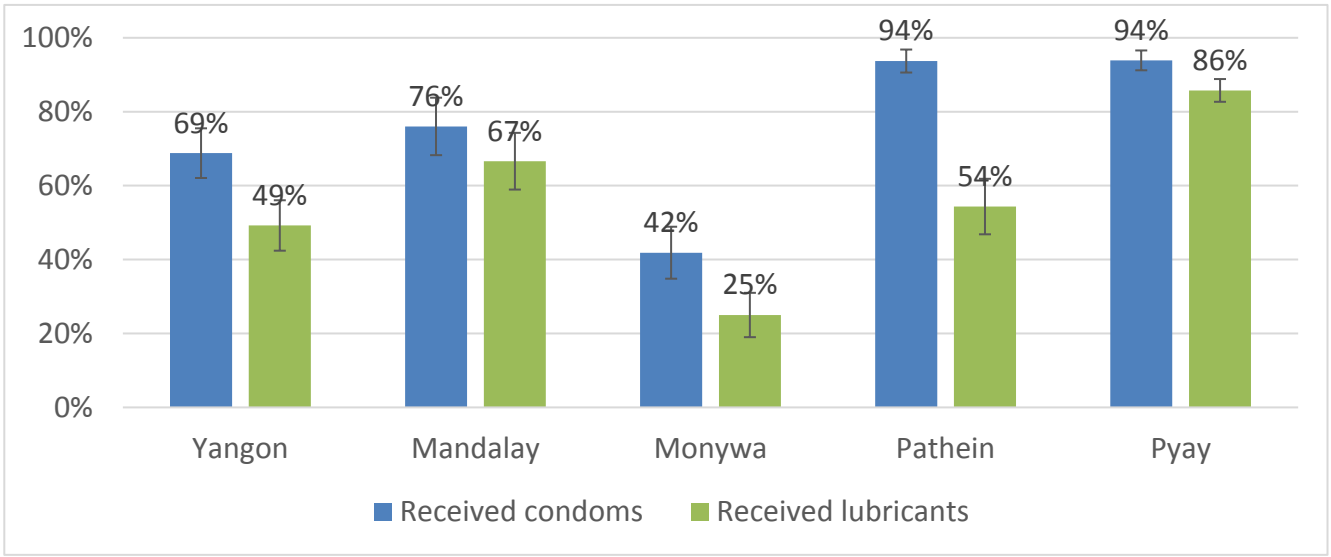
The key population covered with outreach services is generally larger than the proportion who come to an NGO clinic/drop in center. The largest and longest standing NGO providing prevention services to FSW in the IBBS sites is PSI which brands their one-stop service sites as Targeted Outreach Program (TOP) Centers. Respondents were asked about visiting a TOP Center and getting an HIV test at TOP Centers during the first quarter of calendar year 2015.

Figure 61: Places FSW respondents named as a place to go for HIV testing



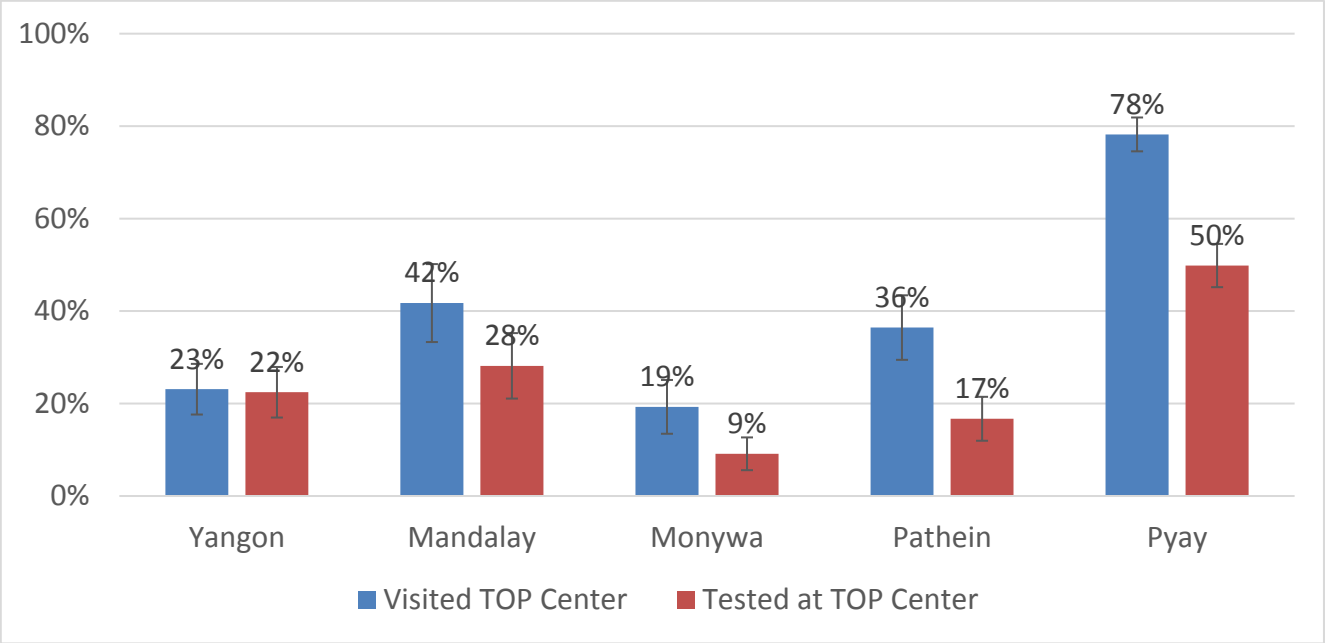
Note: 'Public clinic' refers to either a public hospital or public clinic.
Denominator: All respondent

Figure 62: Proportion of FSW respondents who received prevention commodities from outreach workers in the last 12 months



Denominator: All respondents

Figure 63: Proportion of FSW respondents who utilized TOP Center services in the first quarter of 2015



Denominator: All respondents

FSW might be expected to make regular visits to a TOP Center to receive prevention commodities, network with other FSW, or participate in behavior change interventions. The frequency of HIV testing should be lower, as key populations who are HIV negative are encouraged to test six-monthly. For this reason, each quarter about 25% of all FSW might be expected to visit a TOP Center for testing. The proportion of FSW respondents visiting and testing at TOP Center sites in Pyay was particularly high at 78% and 50%, respectively. And although more than 90% of Pathein FSW had received condoms through outreach only about one third of respondents had been to a TOP Center; and only 17% had been tested for HIV over a three-month period. In the metropolitan areas, Yangon and Mandalay, the proportion of those who visited a TOP Center and were tested for HIV at a TOP Center was not statistically different. This implies that a main reason for FSW to go to a TOP Center in these cities was for HIV testing.

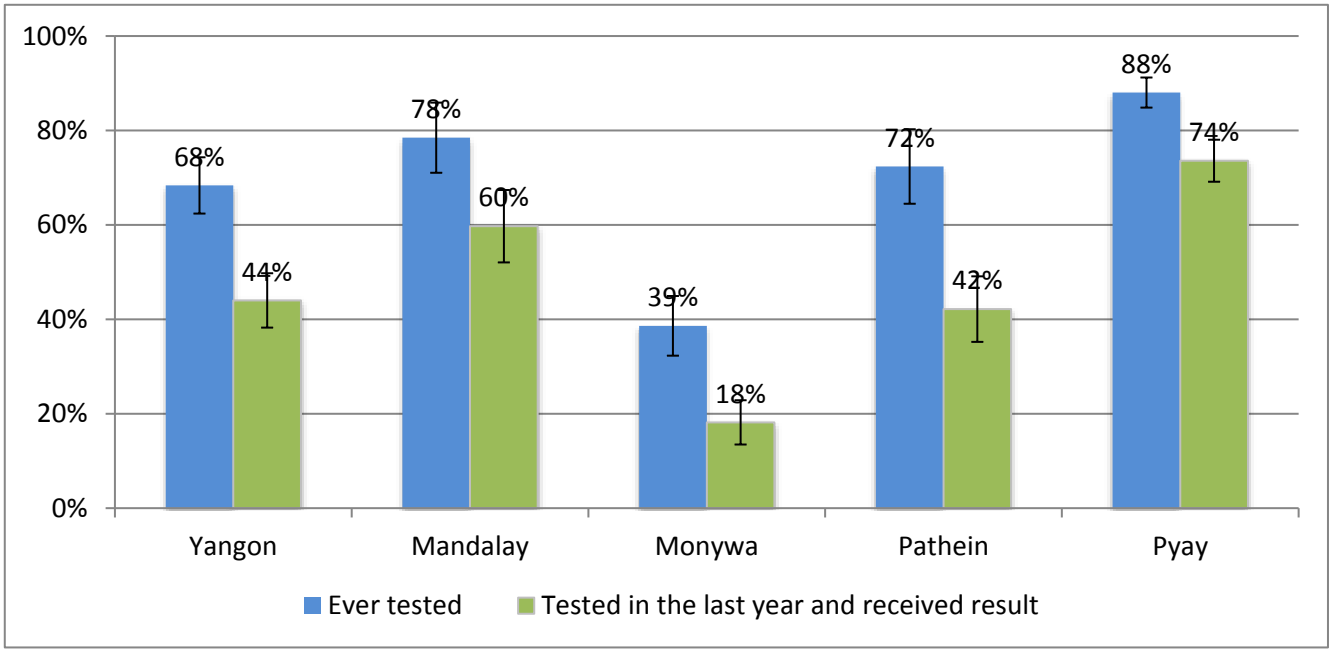
C. Testing Utilization

Global targets for the percentage of PLHIV who know their HIV status is 90%. This requires scaling up and sustaining regular testing for HIV among those at high risk who are HIV negative. The proportion of FSW respondents who had ever been tested was highest in Pyay (88%), and lowest in Monywa (39%). In all sites the proportion who had been tested in the last year and knew their test results (GARPR indicator) was significantly lower than the proportion who had ever been tested.

Despite high levels of GARPR prevention coverage, only 42% of respondents in Pathein met the GARPR testing coverage definition. This may reflect challenges in convenience or user-friendliness of the available testing sites or a deficiency in outreach behavior change messages about the importance of HIV testing. In Yangon, the proportion of those who had ever been tested was moderately high (68%), but less than half (44%) had been tested in the last year and knew their test result.

When the proportion of those receiving an HIV test at a TOP Center in the first quarter (Q1) of 2015 is compared to the GARPR testing coverage indicator, a disproportionate number of FSW were tested in Q1. In Yangon, Mandalay, Monywa, and Pyay approximately half the number of FSW respondents tested in the last 12 months were tested in Q1 at a TOP Center. This may reflect a pattern of holding testing campaigns to encourage FSW to know their status, a seasonal pattern to testing at the beginning of the year, or that testing utilization is on an upward trend.

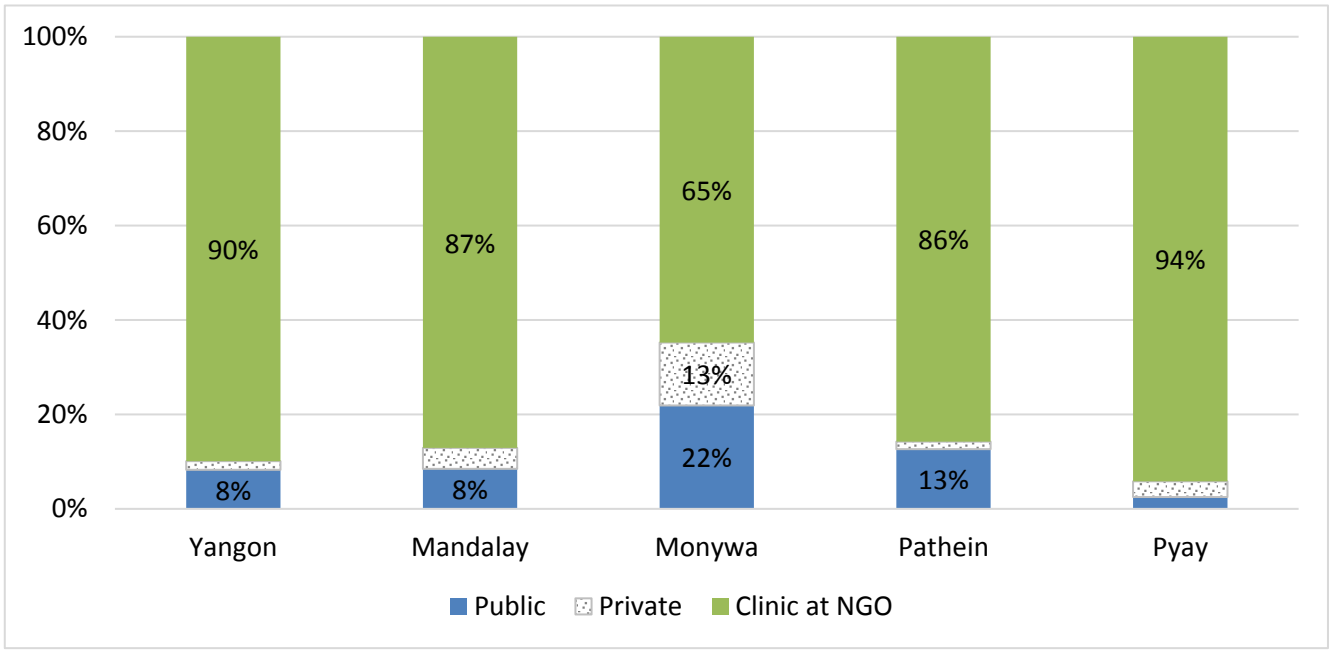
Figure 64: Proportion of FSW respondents who tested in the last year and received results - GARPR



Denominator: All respondents

Most respondents (>85%) reported going to an NGO clinic for their last HIV test in Yangon, Mandalay, Pathein and Pyay. In Monywa, 65% respondents who had been tested for HIV went to an NGO clinic, but about a quarter of respondents went to a public clinic for testing. This health care seeking behavior may be related to the higher proportion of hidden FSW in Monywa who prefer to seek services at a public clinic because going to an NGO clinic would identify them as FSW.

Figure 65: Place of last HIV test reported by FSW respondents

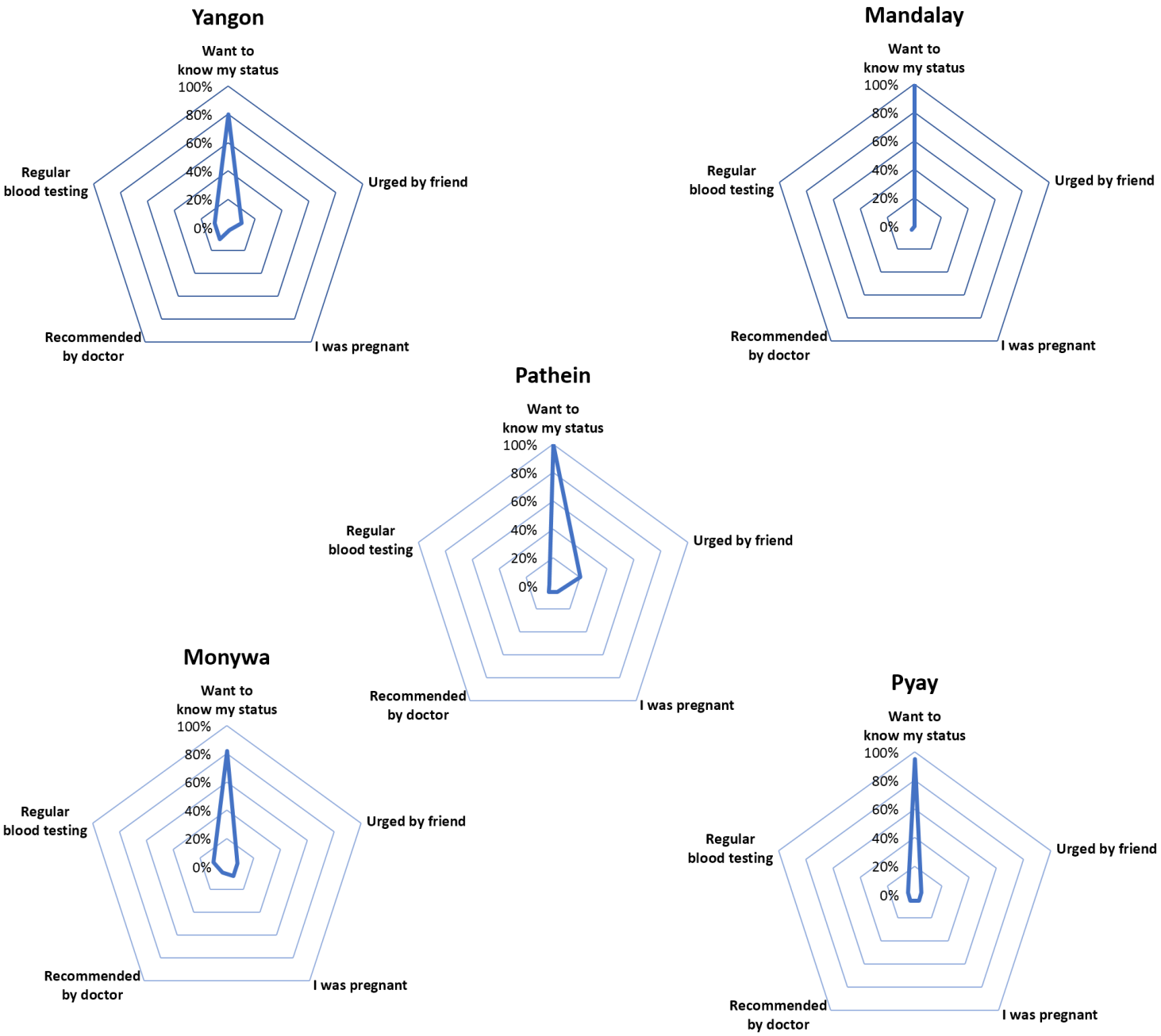


Denominator: Those who ever tested for HIV

Figure 66 shows the responses given by FSW when asked the reason for their last HIV test. The radar-style figures show that most respondents got tested because they wanted to know their HIV status (large peak toward the top of the graph). The second most commonly reported reason in most sites was being urged

by a friend. Very few respondents gave regular blood testing, or recommendation by a doctor as a reason. Testing as part of antenatal care for pregnant women was also not a major reason for the last HIV test.

Figure 66: Reason for last HIV test reported by FSW respondents



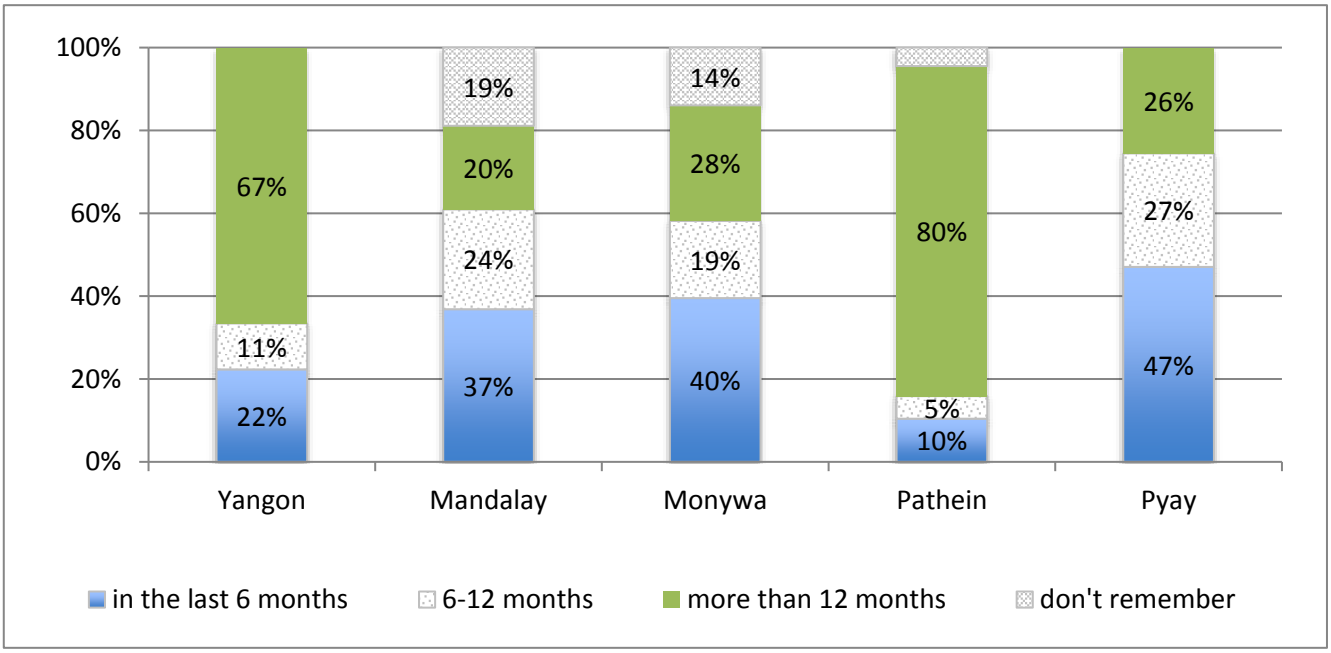
Denominator: Those who had ever been tested for HIV

To determine whether those in the sample who were HIV positive represented newer infections or older infections, we reviewed the timing of the last test among those who had ever been tested. Figures 66a and 66b compare the proportion of those tested more than a year ago among those found to be HIV positive through the IBBS serologic testing to those found to be HIV negative. This tests the hypothesis that if HIV positive FSW in the sample represented older infections, then a higher proportion of last tests would be more than a year ago, since those who have an HIV positive test would not have a reason to test again. The timing of testing among those who are HIV negative provides a useful comparison point, as those who are HIV negative at last test would be encouraged to re-test a year later.

In Yangon and Pathein, we observed that a majority (67% and 80%, respectively) of the last tests of those who were HIV positive occurred more than 12 months ago. Among HIV negative respondents in these cities,

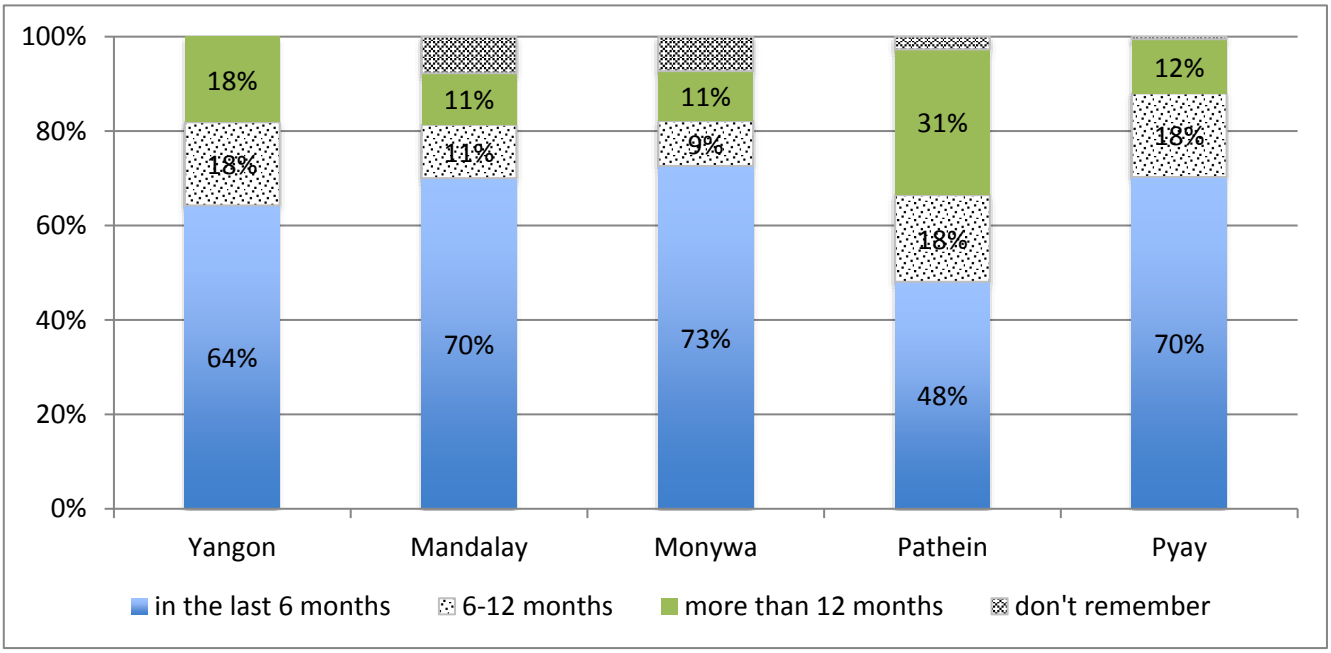
only 18% in Yangon and 31% in Pathein reported their last test was more than a year ago. These data suggest that a large portion of HIV positive individuals in these two cities had older infections. A similar pattern was observed in Mandalay, Monywa and Pyay, however, the differences in timing of last test between HIV positive and HIV negative respondents were not as sharp.

Figure 67: Timing of the last HIV test among FSW respondents who tested positive in the IBBS



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

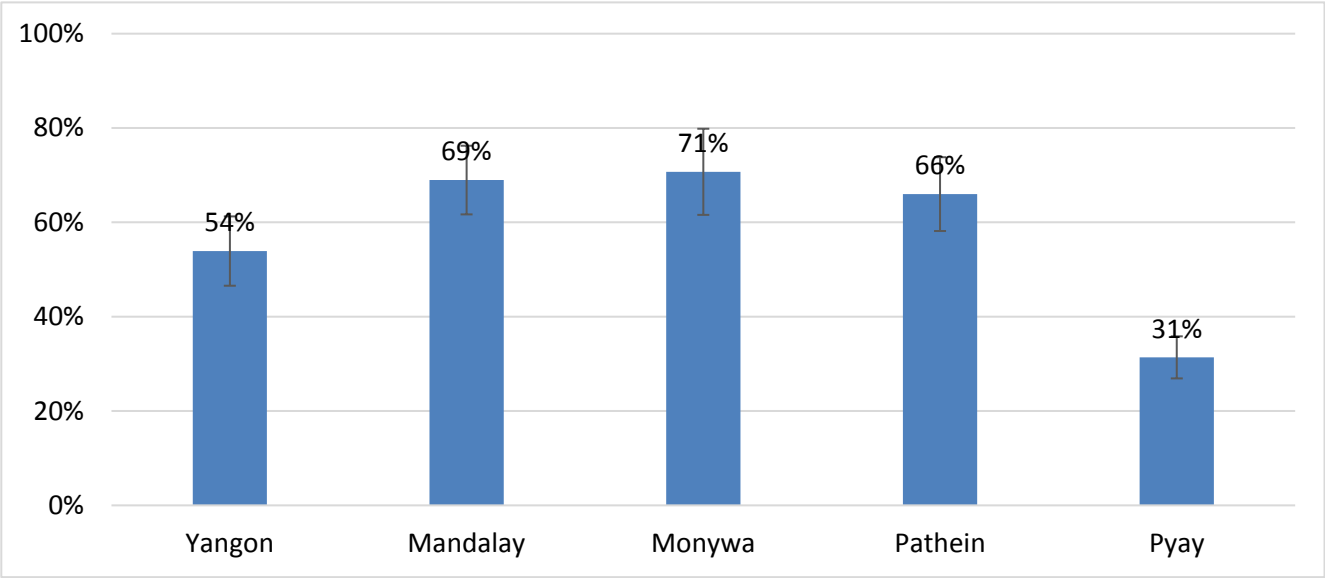
Figure 68: Timing of the last HIV test among FSW respondents who tested HIV negative in the IBBS



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

In four of the five sites, more than half of respondents who had ever been tested for HIV shared their last test result with another person. In Pyay, this proportion was only about one third. Although FSW respondents in Monywa were less likely to ever have been tested for HIV, they were the most likely (71%) to have shared their test result with someone compared to FSW in all other sites.

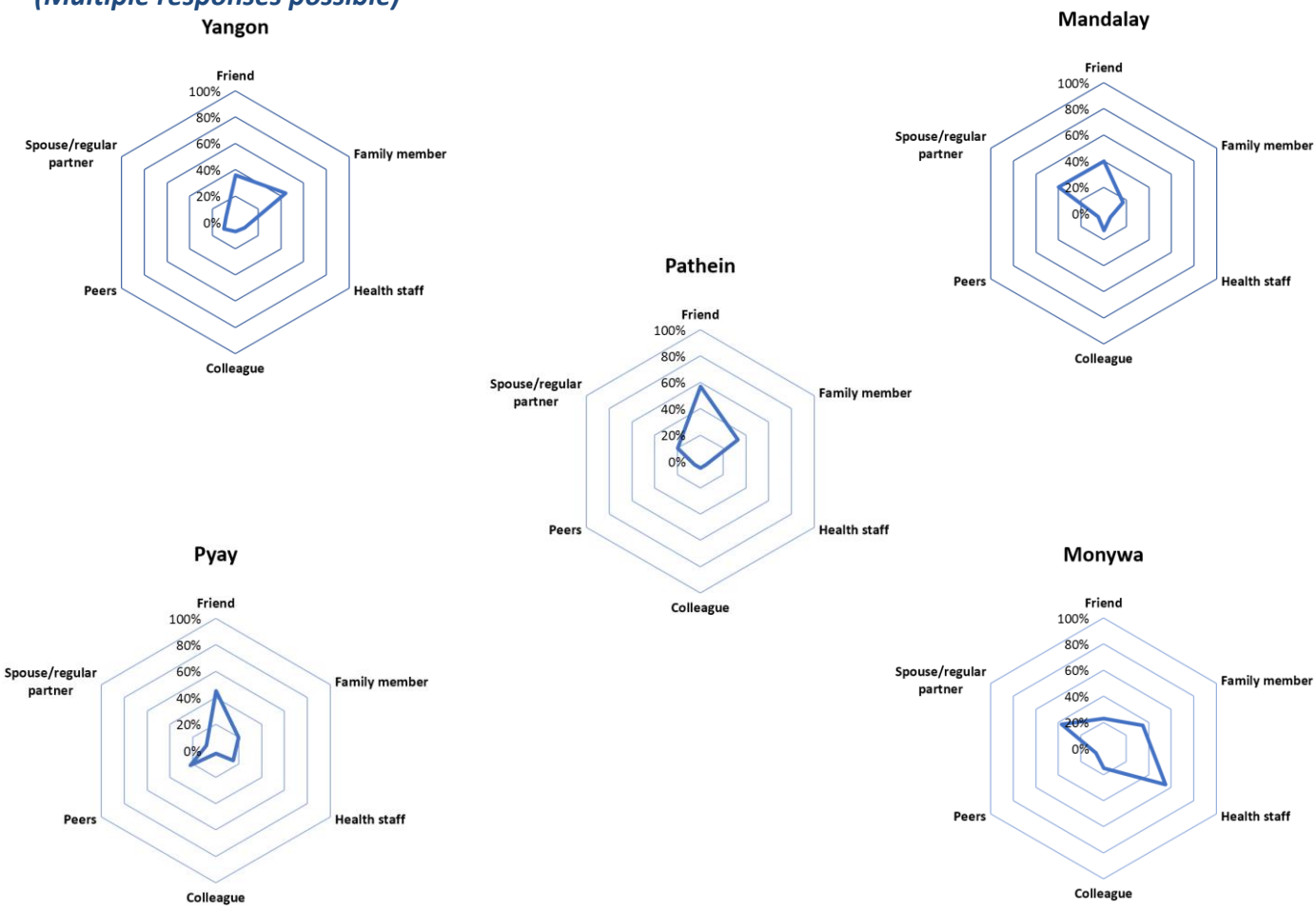
Figure 69: Proportion of FSW respondents who shared their last HIV test result



Denominator: Those who ever tested for HIV

Among those who shared their results with someone, FSW in Yangon were those most likely to have told their result to a family member. About 40% of respondents in Mandalay shared their result with a friend and/or a spouse or regular partner. Those in Monywa were most likely to have shared their result with a health professional. Among FSW in Pathein and Pyay who shared their result, a majority confided in a friend.

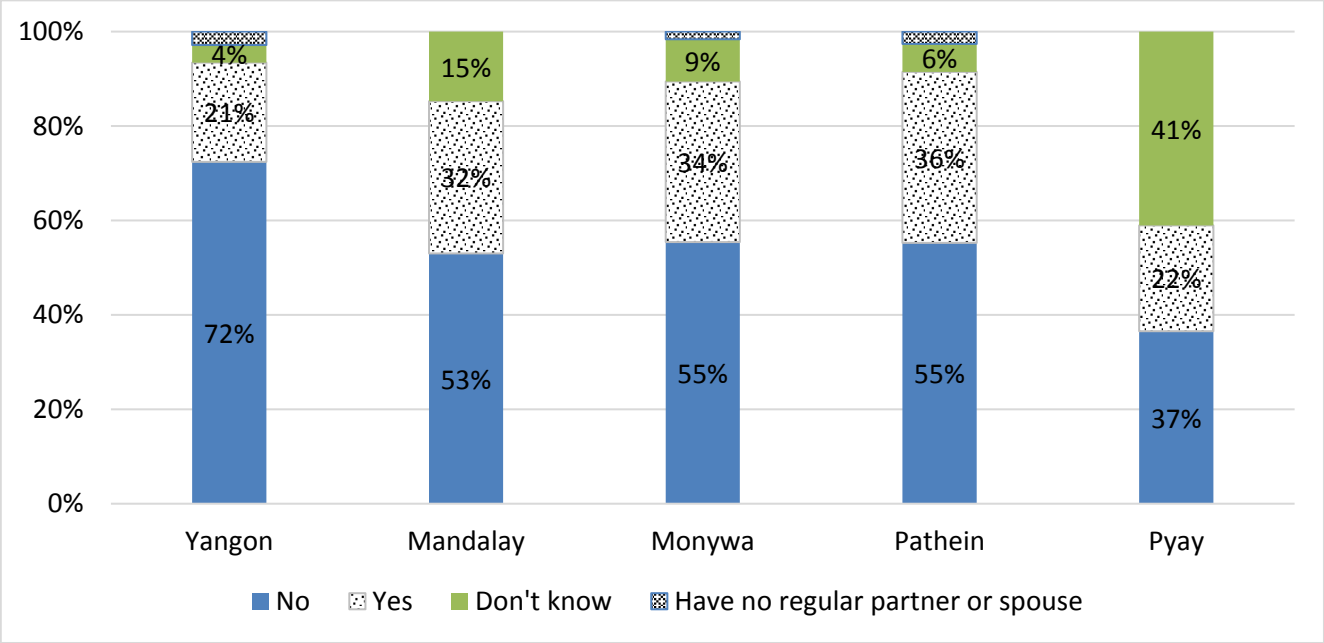
Figure 70: Proportion of FSW respondents who shared their last HIV test result with different people (Multiple responses possible)



Denominator: Those who ever been tested for HIV and shared their test result;

In addition to questions about sharing HIV test results with others, the questionnaire asked FSW if they knew whether their spouse or regular partner had ever been tested for HIV. In all sites, the vast majority of FSW had a current regular partner or spouse, making this question relevant to almost all respondents. A majority of respondents, with knowledge of their regular partner's testing history reported their partner had not ever tested for HIV. This proportion was highest in Yangon (72%). In Pyay, more than 40% of respondents did not know their regular partner's testing history. These results suggest that the benefits of partner counseling and testing is an important issue for prevention programmes to discuss with FSW.

Figure 71: Proportion of FSW respondents whose regular partner had ever been tested for HIV



Denominator: All respondents

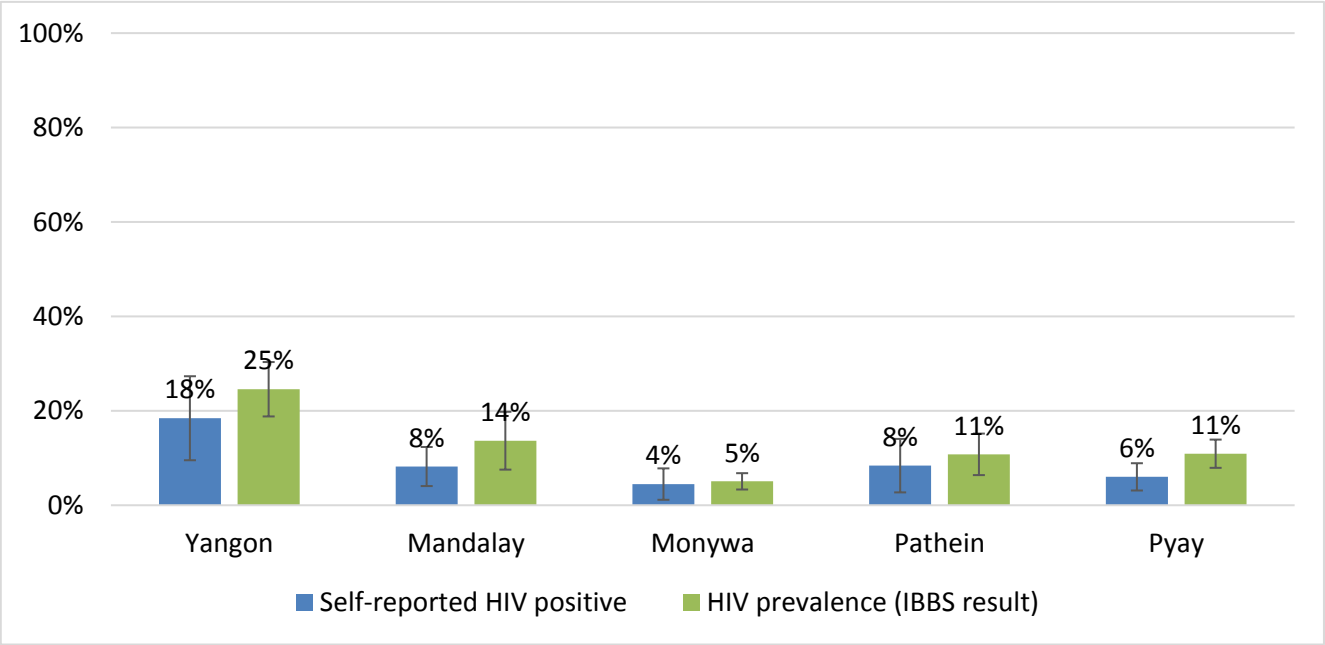
Respondents were asked to share their last test result with the IBBS interviewer, after being reminded that their responses were confidential and that they could choose to skip the question if they did not want to answer. More than 95% of respondents who had ever been tested in Mandalay, Pathein, and Pyay shared their test result with the IBBS interviewer. In Monywa, 88% of respondents ever tested were willing to share their result and in Yangon, only 46% were willing to share.[16]

Of those who had ever been tested and shared their result, the proportion who reported they were HIV positive at last test was lower than the actual HIV prevalence measured in the IBBS but followed a similar pattern across sites. The highest HIV positivity was reported in Yangon (18%) and the lowest HIV positivity in Monywa (4%). Pathein and Pyay had similar levels of positivity (8% and 6%, respectively).

When the number of respondents who reported being HIV positive was compared to the number of respondents found to be HIV positive through IBBS serologic testing, we found relatively low levels of "knowing of status." In Yangon, one in four HIV positive FSW respondents reported being HIV positive. In Monywa, Pathein and Pyay this ratio was about one in three. The largest proportion of HIV positive FSW who knew their status was largest in Mandalay, with slightly more than one in two reporting they were HIV positive. In Yangon and Mandalay, it is possible that the ratio of those who knew their HIV status was higher, due to the higher proportion of people who knew their test result, but who declined to share it with an IBBS interviewer. This is especially true if those who knew they were HIV positive were less likely to share their test results with an IBBS interviewer than those who believed they were HIV negative.

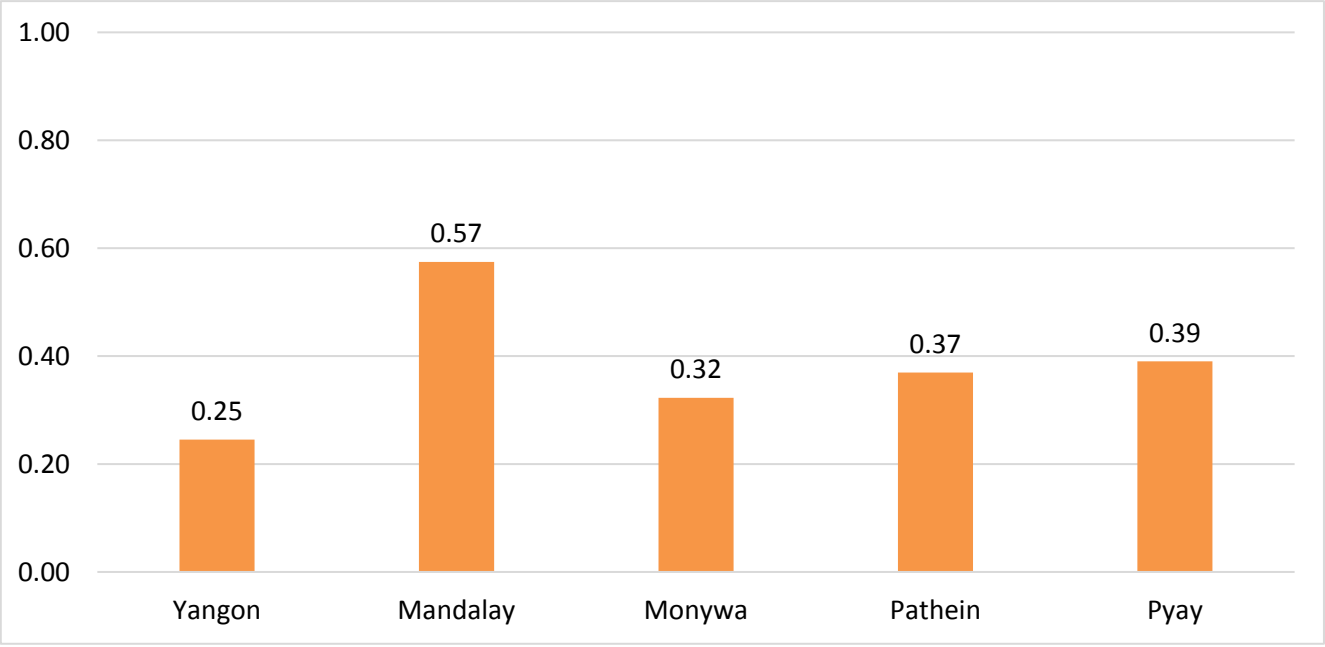
[16] The proportion who shared their last test result with the IBBS interviewer reflects an unadjusted estimate, i.e., was based on actual sample numbers due to software limitations in presenting adjusted population estimates.

Figure 72: Proportion of FSW respondents who reported being HIV positive and tested HIV positive in IBBS



Denominator: 'Self-reported HIV positive' – those who had ever been tested and shared their HIV test result with the IBBS interviewer; 'HIV prevalence' – all respondents

Figure 73: Estimate of FSW respondents who know their HIV positive status

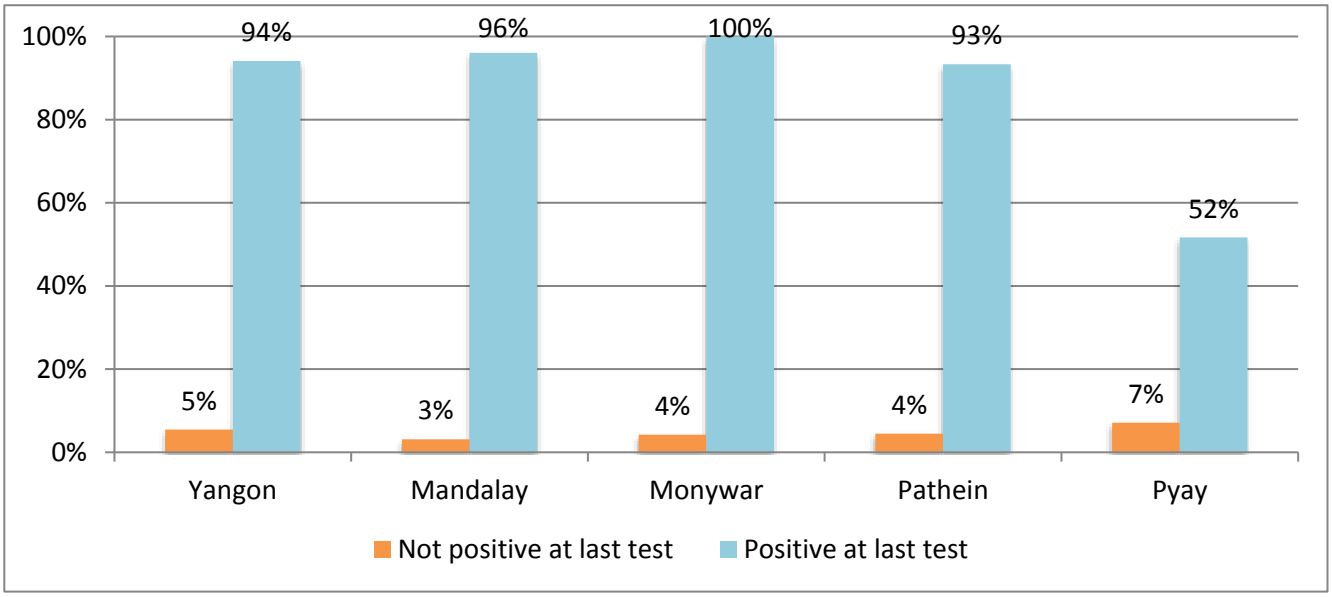


Note: Calculated as the ratio of the number of FSW respondents reporting their HIV positive status to the number of respondents testing HIV positive through IBBS testing. Ratios are calculated from crude sample numbers and are not adjusted estimates

We analyzed HIV prevalence among those who shared their last test result during the IBBS. We would expect HIV prevalence to be 100% among those who said their last HIV test result was positive. This was true in almost all cases in Yangon, Mandalay, Monywa and Pathein. However, in Pyay the results were surprising. Among those who shared with an interviewer that their last HIV test was positive (N=16), only half were HIV positive by IBBS serologic testing. The resulting HIV prevalence among those who reported being negative at last HIV test was between 3-7% across all five sites. These infections might be interpreted as newer

infections as they may have occurred since the last time these respondents had been tested if they had accurately reported their result to the interviewer.

Figure 74: HIV prevalence among FSW respondents by their last self-reported test result

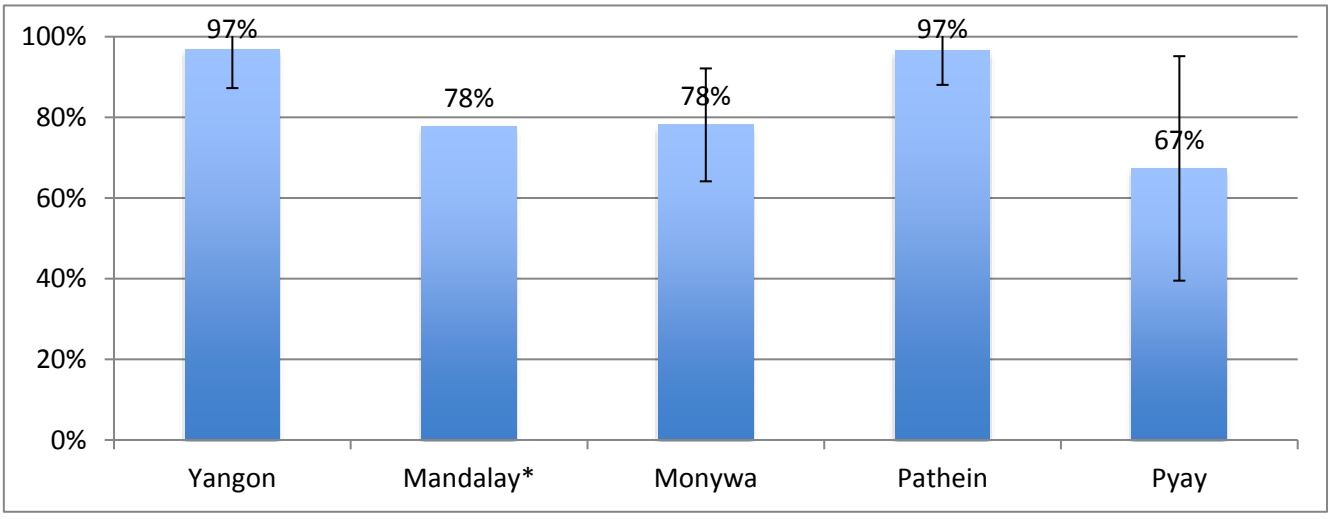


Denominator: Those who had ever been tested and reported their last test result during the IBBS interview

Another key global measure of the effectiveness of a country's response to the HIV epidemic is the proportion of people who are on ART among those who know they are HIV positive. The target for this measure is 90%. Among FSW respondents who had ever been tested and shared that they were HIV positive during the IBBS interview, a large proportion reported receiving "treatment/care and support." In Yangon and Pathein, this proportion was 97%. In Mandalay and Monywa the proportion was 78% and in Pyay the proportion was 67%.

This result should be interpreted with some caution as only people who shared their HIV test result with an IBBS interviewer are included in the denominator. Individuals who feel less comfortable sharing their HIV status with someone else may also be less likely to seek treatment or enroll in HIV care. This would result in an overestimation of the proportion of people who are on care or treatment among those who know their status. The interpretation of this measure should also consider that lower HIV prevalence in Monywa, Pathein, and Pyay means that this analysis relates to a relatively small sub-set of the sample and the results have wide confidence intervals, as shown in Figure 75.

Figure 75: Proportion of FSW respondents receiving treatment or care and support, if they know they are HIV positive



Denominator: Those who had been tested and reported they were HIV positive

11. Population size estimates

The results obtained from the different PSE methods for FSW in each survey site are shown in Table 5. There was wide variability in the size estimated by the different methods. However, in some sites, estimates converged around a reasonable range. Overall, the size of the FSW population as a percentage of the adult female population was quite high in some sites (i.e. >1%).

Table 5: Results of calculated FSW size estimates and the percentage of the adult female population for each survey township, Myanmar, 2015

Survey Site	Number of FSW	Percent of adult female population (15 to 49 years)
Mandalay		(492,148)
Unique Object	1154	0.23%
TOP Centre Visit Programme Multiplier	1750	0.36%
TOP Centre HIV test Programme Multiplier	1915	0.39%
SS-PSE (median)	10178	2.07%
Wisdom of the crowd (WOC, Best mean)	5869	1.19%
NGO most likely	6000	1.22%
Mean of all methods	4477	0.91%
Monywa		(106,507)
Unique Object	1250	1.17%
TOP Centre Visit Programme Multiplier	4532	4.25%
TOP Centre HIV test Programme Multiplier	1511	1.42%
SS-PSE (median)	--	--
WOC (Best mean)	467	0.44%
NGO most likely	1500	1.41%
Mean of all methods	1852	1.74%
Pathein		(101,235)
Unique Object	790	0.78%
TOP Centre Visit Programme Multiplier	1111	1.10%
TOP Centre HIV test Programme Multiplier	1212	1.20%
SS-PSE (median)	1158	1.14%
Wisdom of the crowds (WOC, Best mean)	279	0.28%
NGO most likely	2000	1.98%
Mean of all methods	1192	1.18%
Pyay		(69,031)
Unique Object	625	0.91%
TOP Centre Visit Programme Multiplier	755	1.09%
TOP Centre HIV test Programme Multiplier	330	0.48%
SS-PSE (median)	3840	5.56%
WOC (Best mean)	651	0.94%
NGO most likely	1200	1.74%
Mean of all methods	1234	1.79%

Survey Site	Number of FSW	Percent of adult female population (15 to 49 years)
Yangon		(1,685,097)
Unique Object	7500	0.45%
TOP Centre Visit Programme Multiplier	3278	0.19%
TOP Centre HIV test Programme Multiplier	2455	0.15%
SS-PSE (median)	4773	0.28%
WOC (Best mean)	4327	0.26%
NGO most likely	16000	0.95%
Mean of all methods	6389	0.38%

These data were used during a validation workshop comprising NGO and government representatives, members of key populations, and other stakeholders in the first step of a process to estimate the population sizes of FSW 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 entered 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. The final consensus of FSW PSE for the survey sites were as follows:

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

Survey township		
	PSE	*% of 15-49 female population*
Yangon (YCDC)	7160	0.43%
Mandalay (7 tsp)	5277	1.07%
Monywa	1406	1.32%
Pathein	1541	1.52%
Pyay	675	0.98%

The next step undertaken at the workshop was to obtain the consensus on the national FSW estimated population in Myanmar. First, important indicators related to the presence of FSWs in each township were identified by the large group. As the second step, workshop participants were organized into smaller groups according to their knowledge of geographical locations, social, economic and political factors related to FSWs. 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 FSW. The issues that were considered in this categorizing process include the development of trading, presence of university/college, being border area, mining and industrialization with predominantly male labour, recreation and tourism sites and drug use issues.

The third step was to define the FSW proportion from the 15-49 female population for these high, medium and low categories. This was accomplished after the extensive secondary literature review of materials related to the presence of FSW in Myanmar and the detailed analysis of existing FSW program data. After identification of the proper proportions for each category, these proportions were applied to the 15-49 female population of all the townships in respective categories, and the national estimate for FSW population was finally derived, which was 66,000.

V. Discussion/Conclusion

This survey represents the first time in Myanmar, a survey which measures both behaviours and biological markers among FSW.
Different sex worker typology between metropolitan cities (Yangon and Mandalay) and other townships (Monywa, Pathein and Pyay) indicates the need for different approaches in HIV prevention.

As more than one-third of the sample in Monywa, Pathein and Pyay were venue-based sex-workers (semi-visible), advocacy to local authorities is important to get access to these venues through the gate-keepers.

For the hidden sex workers working through phone or internet, we have to consider conveying the HIV related messages via public events, role-models, software and applications commonly used by sex workers, and SMS. The survey showed that around one-third of respondents in Monywa and Pyay were hidden sex workers, around one quarter in Yangon and more than 10% in other sites.

For those townships with high percentage of part-time sex workers (e.g. in Monywa, half of the respondents who did not depend on sex work as their main source of income), we would need tailored HIV prevention programs to reach them. On the other hand, it would also be useful to consider provision of vocational trainings as well as empowerment programs to young women which would indirectly support the part-time sex workers.

Experience of STI symptoms (ulcer or discharge) was high (more than 30%) except in Yangon. As STI can increase a person's risk of getting HIV, both for biological and behavioral reasons, STI prevention and treatment program among FSW should be prioritized again through private- public partnership approach.

Overall HIV prevalence was highest in cities, and more than 10% in other townships except in Monywa. The importance was HIV prevalence among those doing sex work for one year or less was very high in Mandalay and Pyay (17% and 10% respectively) implying as high level of new infections. This calls for further detailed researches and analysis to understand their characteristic and on the other hand, prevention programs with specific focus on new comers to the sex work industry is recommended.

Around 70% of the sample had regular sex partners except in Pyay (around 50%). Yet in Monywa, Pathein and Pyay, about half of FSW respondents reported never using condoms with regular partners in the past one month suggesting that this area remains as significant gap for the prevention program to address.

Although more than 80% of respondents in Yangon and Pyay reported consistent condom use with clients in last month, this was only between 36-45% in other three sites. In Monywa, nearly one-third of respondents reported never using condoms with clients. The main reason for not using condom in Mandalay and Monywa was condom not accessible when they want or need them. This highlights the needs to increase the condom availability through peers to provide condom to the right person as well as to reinforce the behavior change programs.

Comprehensive knowledge on HIV prevention and transmission among respondents was around 50-60% except in Monywa. HIV Prevention coverage was very high in Pathein and Pyay and moderately high in Yangon and Mandalay but low in Monywa. This indicates the need for the intensified and targeted HIV prevention program in Monywa.

Regarding HIV testing, while more than 90% of respondents knew a place for HIV testing in 3 sites, nearly one quarter of respondents in Yangon reported they did not know where they could get tested. Only around 40% of respondents had HIV test in the last year and received results in Yangon and Pathein, while this was only 18% in Monywa. Moreover, among the respondents found to be HIV positive through IBBS serologic testing, relatively low levels of “knowing HIV positive status” was noticed. Only one in four HIV positive FSW

respondents knew their status, one in three in Monywa, Pathein and Pyay and one in two for Mandalay. With the high level of HIV prevalence among FSW in Yangon (25%), this calls for immediate attention to emphasize on HIV testing among FSW in Yangon which is the entry point for following HIV treatment and care.

With majority of respondents having regular partner, regular partner testing becomes an important issue. Yet in Yangon, 72% of respondents reported their partners never having an HIV test. The proportion was around 55% in three sites and nearly 40% in Pyay. Based on this finding, our prevention programs should go for extensive targeted HIV testing (KP and their partners) especially in Yangon and promote family planning as well.

About 50% of FSW respondents in Yangon reported they often or always avoided health care due to stigma, 40% in Pyay, around 20% in Monywa and Pathein and only 4% on Mandalay. This suggests that stigma is still regarded as a barrier to seek health care.

Findings from Monywa indicated high level of STD symptoms, high level of never using condoms with clients, low level of comprehensive HIV knowledge, and low level of prevention and testing coverage. These might all relate to the high level of semi-visible and hidden FSW respondents in Monywa. HIV prevalence in Monywa turned out to be the lowest in all five sites however, there is high tendency that the prevalence might become higher if we fail to address the above issues. Intensified HIV prevention program to reach the semi-visible FSW is much needed for Monywa.

In calculation of PSE, we only had 5 benchmarks for obtaining estimates of the remaining townships and had to rely on program data and literature review. The more robust national estimate would be reached if we could have more site-specific PSE from IBBS which means to increase the survey sites in next round. However, site-specific PSE from other sources such as programmatic mapping could also serve the same and we should consider other alternatives which would be more efficient and effective as these exercises demand heavily on financial and human resources.

All in all, it is important to address the tailored prevention approach to different typologies of FSWs to decrease the risk of transmission among FSW including the re-strengthening of STI programs, and increased condom availability. Intensifying HIV testing services and undertaking new HTS models to increase the yield of HTS among FSW and their partners, and to improve linkages of HIV positive FSW to care, support and treatment services. We also need to explore further in details the stigma and discrimination against FSW to remove the barriers they meet in seeking health care. This could be achieved adding more questions on stigma and discrimination in the next IBBS among FSW.

This survey has again shown that using RDS was feasible in all 5 survey sites though following a strict protocol, intensive supervision and quality control procedures were critical to ensure the quality of the survey. Nevertheless, the representativeness of survey findings is limited to its geographical area. It is not recommended to generalize the site-specific survey findings to national results. It would be best to increase the number of sites in the next round to obtain a more nationally representative sample with random selection of the sites among stratified township categories, while considering the feasibility and cost-effectiveness of the survey.

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[17]; 3) the successive sampling size (SS-PSE) method[18]; 4) Wisdom of the Crowds; and, 5) key informant and NGO 'best guesses' Each of these methods are described below.

Multiplier methods[19]

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]?"

---

[17] 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.

[18] 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

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

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 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	16,000
Mandalay	6000
Monywa	1500
Pathein	2000
Pyay	1200

Annex 2. Description of Survey Sites

Yangon City (15-49 years female Population: 1.68 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 rights. The RDS centre was established in Bohtataung township at the hub of city which belonged to Eastern part of Yangon.

Mandalay City (15-49 years female Population: 0.49 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 FSW and clients – The Union mainly supporting to NAP, Population Services International (PSI), Marie Stopes International (MSI), International HIV/AIDS Alliance in Myanmar (Alliance), and Consortium. Myanmar Anti-Narcotics Association (MANA) is also offering prevention services for FSW and MSM in addition to PWID population. There also are few CBOs and SHGs carrying out HIV prevention outreach activities for FSW and referring their clients to NGOs for HIV/STI testing and necessary treatment and care and sexual and reproductive rights. The RDS centre was located in Aung Myay Thar Zan township.

Pathein (15-49 years female Population: 0.1 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-hour round. The unique feature of Pathein township is the 2 famous beaches Ngwe Saung and Chaung Thar situating less than 40 miles away from Pathein which are popular sites for 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 FSW and clients; PSI, MSI, Consortium and Pyi Gyi Khin (PGK). There are also few CBOs and SHGs who are working on health of the community in relation to HIV prevention and referral services.

Monywa (15-49 years female Population: 0.1 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 3 NGO/INGOs: Consortium, PSI, and MSI, working hand in hand with NAP to offer prevention, treatment and care services for FSWs.

Pyay (15-49 years female Population: 0.07 million)

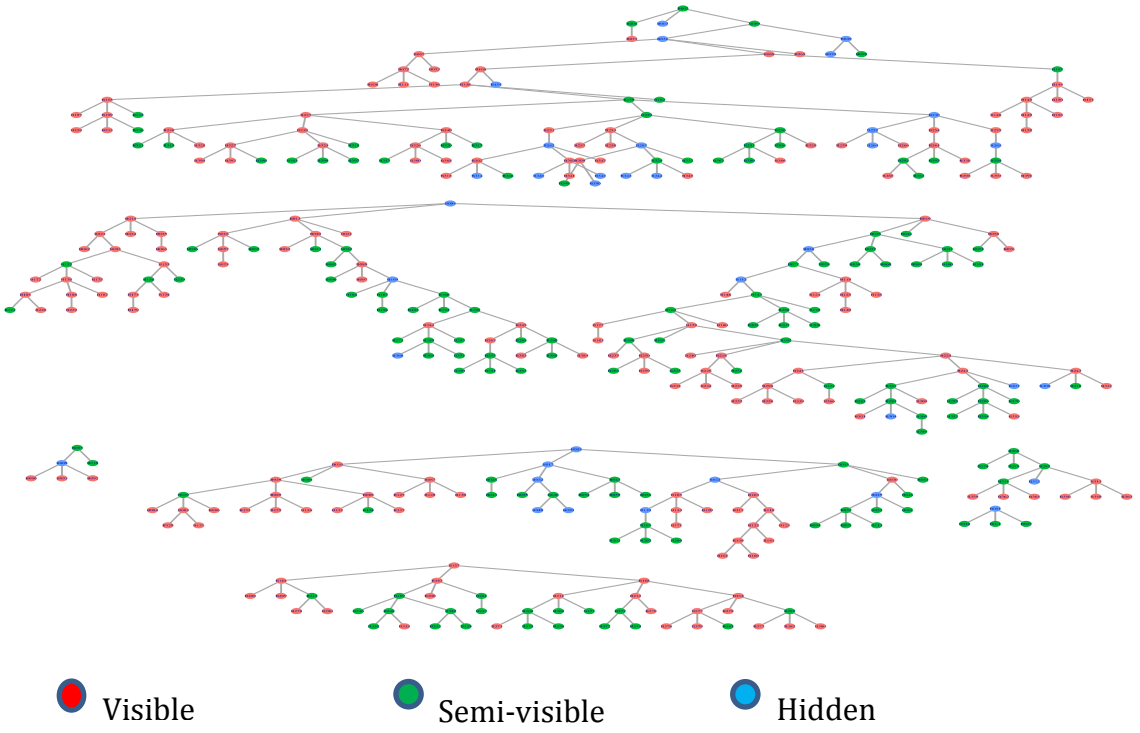
Pyay residing a total population of 0.25 million is situated on the banks of the Ayeyarwady River and is 260 km (160 mi) north-west of Yangon. It has much transit and trade as it is located on an important cross-road.

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 4 NGOs providing HIV prevention, treatment and care services for MSM - PSI, MSI, Alliance, and Consortium. There also are a few CBOs and SHG carrying out HIV prevention outreach activities among FSW refering their clients to NGOs for HIV/STI testing and further management and for FSW rights regarding sexual and reproductive health.

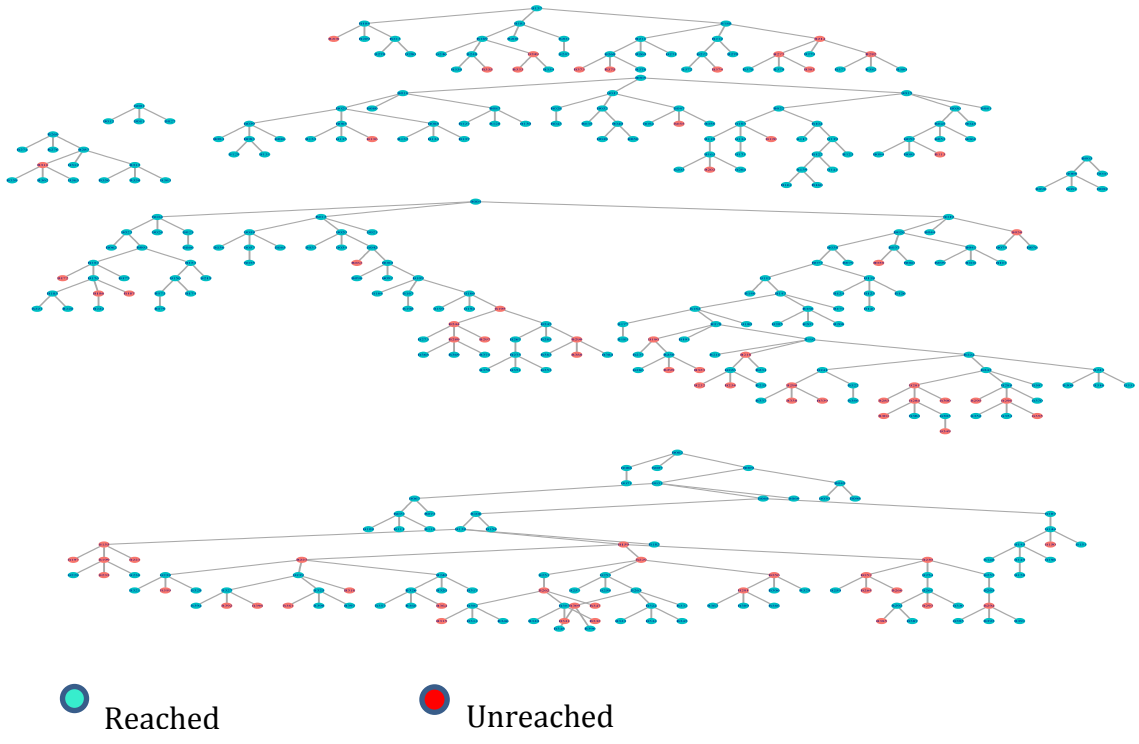
Map of survey sites

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

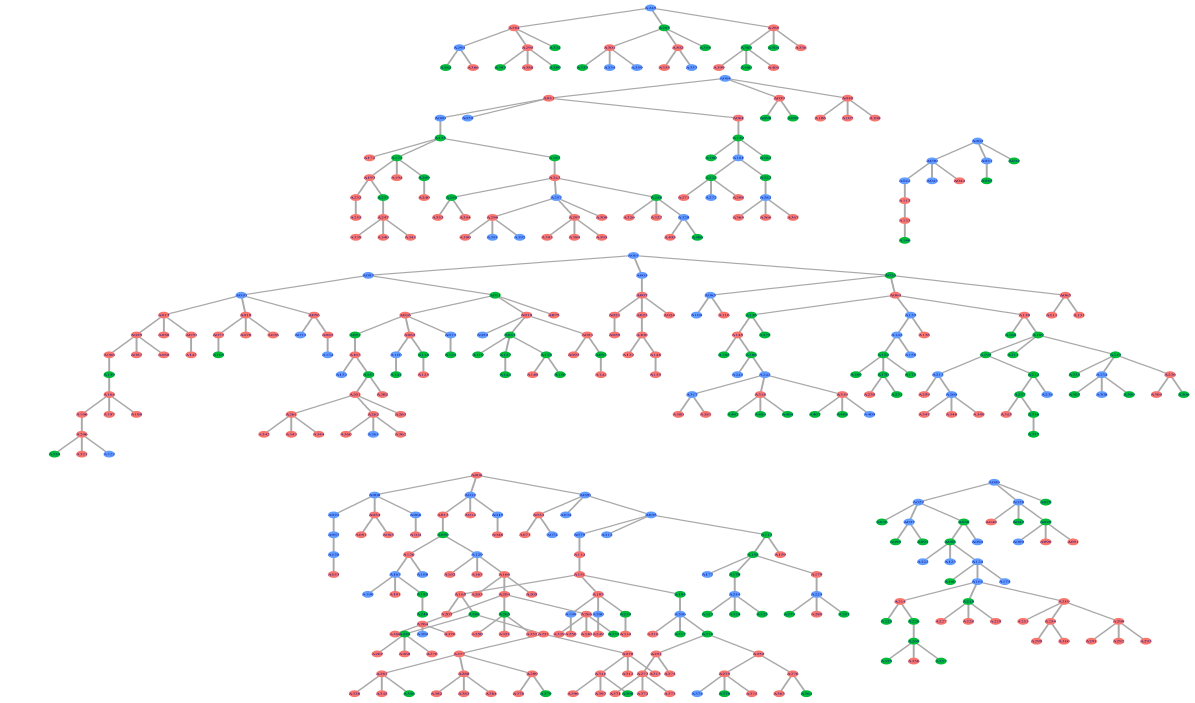
Mandalay recruitment by sex work typology



Mandalay recruitment by prevention coverage

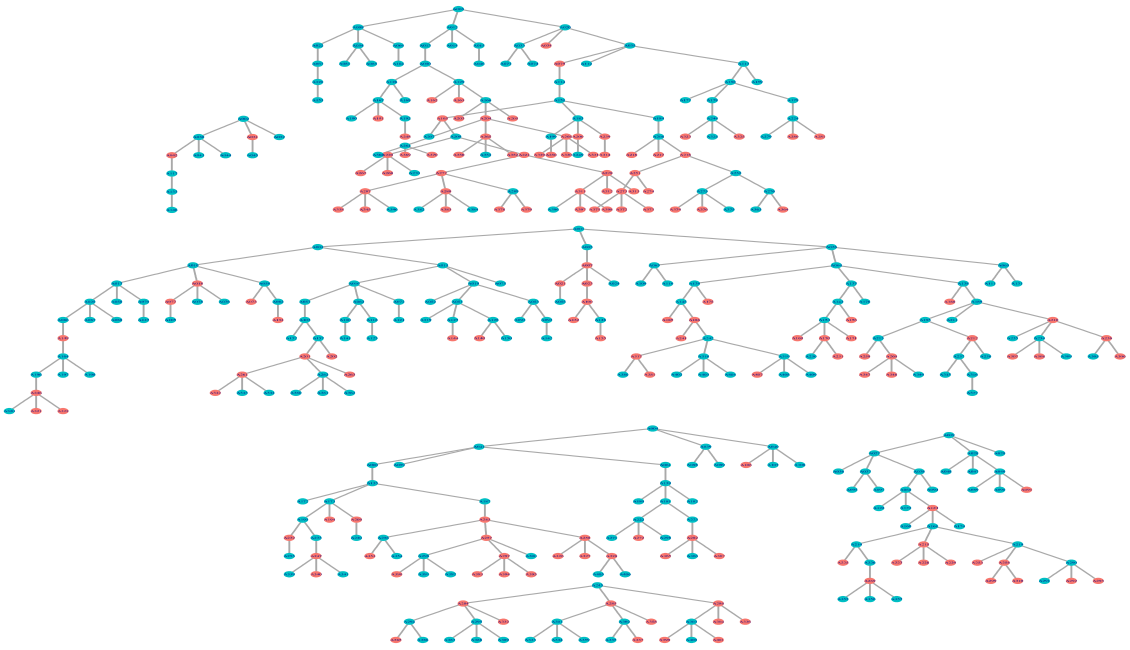


Yangon recruitment by sex work typology



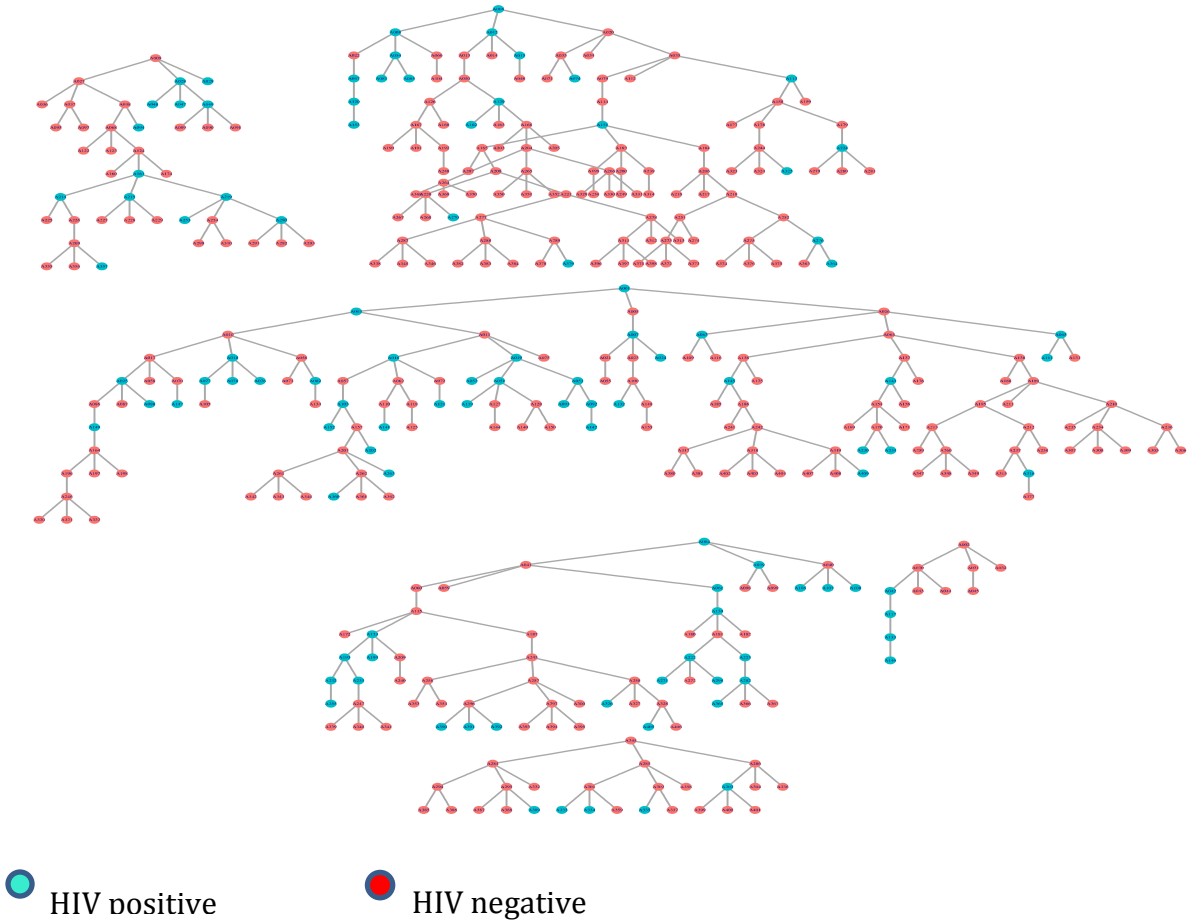
Visible Semi-visible Hidden

Yangon recruitment by HIV prevention coverage



Reached Unreached

Yangon recruitment by HIV prevalence



Annex 4. Survey Questionnaire

Participant ID Number: ☐ ☐ ☐ ☐

Questionnaire

Integrated Bio-behavioural Surveillance Survey in Female Sex Workers in Myanmar 2015

RDS Coupon Number ☐ ☐☐ ☐☐ ☐☐☐☐

INTRODUCTION

1. Greet participant (for example: Mingalarbar, Good Morning/Good Afternoon/Good Evening)
2. Introduce yourself and thank the participant for taking the time to participate in the survey
3. Emphasize the confidentiality of the answers and reassure the participant that names 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) being female and aged 15-49 years; (2) having been paid for sex in cash or kind in the past 12 months; (3) currently living or working 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	

BLOCK II. DEMOGRAPHIC/GENERAL CHARACTERISTICS				
#	Question	Answers	Codes	Skip to
201	How old are you? (Must be between 15-49 years, if <15 years or older than 49 years, inform to 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?	For work For education/studies	01 02	

	CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	For health reasons Family moved Moved with partner Separated from family due to disaster/conflict/family conflict Stigma and discrimination Other (specify): _____ No answer	03 04 05 06 07 77 99	
207	Can you read and/or write in Myanmar? CIRCLE SINGLE BEST 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	➔ 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	Sex work Broker/manager/pimp Salaried (public/private sector) Farming/agriculture Manual/unskilled laborer Trade/business/shop Beauty salon/Massage parlor Entertainment/Hospitality (e.g. karaoke, restaurant, tea shop) Unemployed/Dependent on others Other (Specify):_____ No answer	01 02 03 04 05 06 07 08 09 77 99	
212	In the last 12 months, what was your <u>main source</u> of income? CIRCLE SINGLE BEST RESPONSE. DO NOT READ LIST	Sex work Broker/manager/pimp Salaried (public/private sector) Farming/agriculture Manual/unskilled laborer Trade/business/shop Beauty salon/Massage parlor Entertainment/Hospitality (e.g. karaoke, restaurant, tea shop) Dependent on others Other (Specify):_____	01 02 03 04 05 06 07 08 09 77 99	

		No answer		
213	In the last 12 months, what was your average monthly income?	Kyats_____ _____ No answer	 99	
214	In the last 12 months, what was your average monthly income from sex work?	Kyats_____ _____ No answer	 99	
215	What is your current marital status? READ OUT ANSWER CHOICES AND PARTICIPANT TO SELECT ONE BEST ANSWER	Currently married Ever married, but now divorced, separated, or widowed Never married No answer	01 02 03 99	
216	Do you have children?	No Yes	00 01	If No, skip to 218
217	How many children do you have?	_____ _____		
218	With whom do you currently live? CIRCLE SINGLE BEST RESPONSE. DO NOT READ LIST	Live with spouse/partner Live with parents/ relatives Live with friend(s) Live alone Live with children Live with broker/manager/pimp Other (Specify):_____ No answer	01 02 03 04 05 06 77 99	
219	Have you ever used a contraceptive method?	No Yes	00 01	If No, skip to 224
220	What contraceptive methods have you ever used before? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Condom Pills Intrauterine device (IUD) Injectables Implants Emergency contraception Female Sterilization Rhythm method (Calendar Method) Withdrawal Other (Specify):_____	01 02 03 04 05 06 07 08 09 77	If 07, skip to 223
221	Are you currently using any method of contraception other than condoms?	No Yes	00 01	If No, skip to 224
222	What contraceptive method are you currently using? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST.	Pills Intrauterine device (IUD) Injectables Implants Emergency contraception Rhythm method Withdrawal Other (Specify):_____	01 02 03 04 05 06 07 77	
223	What are the reasons that you use other contraceptive methods instead of/together with condoms?	Other method is more reliable than condoms	01 02	

	CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Other method is more convenient than condoms Other method is cheaper than condoms Other (Specify):_____	03 77	
224	Do you ever have non-client partner(s)?	No Yes	00 01	If No, skip to block 5
225	What type of non-client partner(s) do you ever have? CIRCLE ALL THAT ARE MENTIONED	Regular male partner Causal male partner	01 02	If answered 01, block 3 has to be completed. If answered 02, block 4 have to be completed.

BLOCK III.
SEXUAL HISTORY WITH REGULAR MALE PARTNERS
Now I would like to ask you about sex (vaginal or anal) with your spouse or regular male partners.

#	Question	Answer	Codes	Skip to
301	At present, do you have a non-paying partner who you consider to be your main, regular partner? This person could be a spouse or a boyfriend, should be someone with whom you share an emotional bond.	No Yes No answer	00 01 99	
302	In the last 12 months, how many regular partners have you had?	Number_____ Don't know/ remember No answer	88 99	If "0", skip to 306
303	In the last one month, have you had sex with your regular male partner?	No Yes No answer	00 01 99	If No, skip to 306
304	In the last one month, how many times have you had sex with that partner?	Number of times ---------- Don't know/ remember No answer	00 88 99	
305	In the last one month, with what frequency did you use condoms with your regular partner? 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	
306	At last sex, did you and your regular partner use a condom?	No Yes No answer	00 01 99	If No, skip to 308
307	Who decided whether a condom was used at that time?	Self Partner Joint decision Don't know/ remember No answer	01 02 03 88 99	After answering this question, skip to block IV

308	Why didn't you and your regular partner use condoms at last sex? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Not easily available Expensive Using other contraception Was under the influence of alcohol/drug Regular 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 IV.
SEXUAL HISTORY WITH CASUAL MALE PARTNERS
Now I would like to ask you about sex (vaginal or anal) with your casual, non-paying male partners. A casual partner is someone you have sex with only and without payment or favors.

#	Question	Answer	Codes	Skips
401	At present, do you have a non-paying partner who you consider to be a casual partner?	No Yes No answer	00 01 99	
402	In the last 12 months, how many casual partners have you had?	Number_____ Don't know/ remember No answer	 88 99	If "0", skip to 406
403	In the last one month, have you had sex with a casual partner(s)?	No Yes No answer	00 01 99	If No, skip to 406
404	In the last month, how many times have you had sex with a casual partner(s)?	Number of times ---------- Don't know/ remember No answer	00 88 99	
405	In the last one month, with what frequency did you use condoms with your casual partner(s)? 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	
406	At last sex, did you and your casual partner use a condom?	No Yes No answer	00 01 99	If No, skip to 408
407	Who decided whether a condom was used at that time?	Self Partner Joint decision Don't know/ remember No answer	01 02 03 88 99	After answering this, skip to block V
408	Why didn't you and your casual partner use condoms at last sex? 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 V.
GENERAL SEX WORK HISTORY
Now I would like to ask you some questions regarding the time period since you started accepting money or gifts in exchange for sex. When we refer to sex, we mean vaginal or anal penetrative sex.

#	Question	Answers	Codes	Skip to
501	How old were you the first time you had sex?	Age in completed years _____ Don't know/remember No answer	 88 99	
502	How old were you the first time you exchanged penetrative (vaginal or anal) sex for money or gifts?	Age in completed years _____ Don't know/remember No answer	 88 99	
503	The first time you exchanged sex for money or gifts; did someone force or convince you to do it?	No Yes No answer	00 01 99	
504	In the past 12 months, on average, how many weeks did you exchange sex for money or gifts in a month?	Number of weeks _____ Don't know/ remember No answer	 88 99	
505	In the past 12 months, on average, how many days did you exchange sex for money or gifts in a week?	Number of days _____ Don't know/ remember No answer	 88 99	
506	In the last 12 months, did you exchange sex for money or gifts in other towns too?	No Yes No answer	00 01 99	If No, skip to 508
507	In the last 12 months, in which other towns aside from you currently live/work did you exchange sex for money or gifts? RECORD ALL TOWNS THAT ARE MENTIONED	_____ _____		
508	In the last 12 months, where did you meet/solicit clients most often? SELECT SINGLE BEST ANSWER	Brothel Street/Park/Railway station Massage parlor Day/Nightclub Restaurant/Tea shop Karaoke Hotel/Guesthouse Your house/Flat Client's house/Flat Call girl/Mobile phone/Internet Other_____ No answer	01 02 03 04 05 06 07 08 09 10 77 99	
509	In the last 12 months, where did you have sex with clients most often? SELECT SINGLE BEST ANSWER	Brothel Massage parlor Day/Nightclub Hotel/Guesthouse Your house/Flat Client's house/Flat Other_____ No answer	01 02 03 04 05 06 77 99	

510	In the last one month, how many men have paid you with money or gifts for sex?	Number _____ Don't know/remember No answer	 88 99	If did not have any clients, skip to 513
511	In the last one month, how many times did you have sex for money or gifts?	Number _____ Don't know/remember No answer	 88 99	
512	In the last one month, how often did you use a condom when you had sex in exchange for money or gifts? READ THE FIRST FIVE RESPONSES. PARTICIPANT TO SELECT ONE BEST ANSWER.	Always (every time) Most times About half the times Occasionally Never No answer	01 02 03 04 05 99	
513	How many paying clients did you have sex on last working day?	Number_____ Don't know/ remember No answer	 88 99	
514	The last time you had sex with a paying client, did you use a condom?	No Yes No answer	00 01 99	If No, skip to 516
515	Who decided whether a condom was used at that time?	Self Partner Joint decision Don't know/ remember No answer	01 02 03 88 99	After answering this, skip to 517
516	When you did not use a condom last time you had sex with a client, what were the reasons for not using a condom? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Not easily available Expensive Using other contraception Under influence of drugs or alcohol Sex partner doesn't like to use it I don't like to use it Both don't like it Don't think it is necessary Didn't think of it/Forgot I know this client well Client is paying more without Other (Specify)_____ No answer	01 02 03 04 05 06 07 08 09 10 11 77 99	
517	The last time you had sex in exchange for money or gifts, how much money did the client pay?	Kyats_____ No money, only received gifts No answer	 01 99	If no money, skip to 519
518	How much of that money were you able to keep for yourself?	Kyats_____ No answer	 99	
519	In general, who decides how much you are paid for exchanging sex for money or gifts (who makes the final decision)?	Broker/manager/pimp decides I decide Client decides Other _____ Don't know/ remember	01 02 03 77 88 99	

		No answer		
520	Have you ever encountered any client who refuses to give you money or gift(s) after having sex?	No Yes No answer	00 01 99	If No, skip to 522
521	In the last 12 months, how many times has this occurred or happened to you? READ THE FIRST FIVE RESPONSES. PARTICIPANT TO SELECT ONE BEST ANSWER.	Always (every time) Most times About half the times Occasionally Never No answer	01 02 03 04 05 99	
522	Have you ever had anal sex in exchange for money or gifts?	No Yes No answer	00 01 99	If No, skip to block VI.
523	In the last one month, have you had anal sex in exchange for money or gifts?	No Yes No answer	00 01 99	If No, skip to 525.
524	In the last one month, with how many men did you have anal sex in exchange for money or gifts?	Number_____ Don't know/ remember No answer	 88 99	
525	The last time you had anal sex in exchange for money or gifts, was a condom used?	No Yes No answer	00 01 99	If No, skip to 527
526	Who suggested that a condom be used at that time? CIRCLE THE SINGLE BEST ANSWER. DO NOT READ LIST.	Self Client Joint decision Don't know/ remember No answer	01 02 03 88 99	After answering this question, skip to 528
527	If a condom was not used the last time you had anal sex with a client, what were the reasons for not using a condom? CIRCLE ALL THAT ARE MENTIONED. DO NOT READ LIST.	Not easily available Expensive Under influence of drugs or alcohol Sex partner doesn't like to use it I don't like to use it Both don't like it Don't think it is necessary Didn't think of it/Forgot I know this client well Client pays more without Other(Specify)_____ No answer	01 02 03 04 05 06 07 08 09 10 77 99	
528	The last time you had anal sex with a paying client, did you use lubricant?	No Yes No answer	00 01 99	

BLOCK VI. CONDOMS AND LUBRICANTS **Now I would like to ask you about condoms**				
#	Question	Answers	Codes	Skip to
601	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 603
602	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 Broker/manager/pimp Drop-In Center Betel shop Hospital/ clinic/STD team Karaoke/Restaurant Inn/ Hotel/ Motel/Guesthouse Outreach worker/Healtheducator/ Basic Health Staff Peer/ Friend Other (Specify)_____ No answer	01 02 03 04 05 06 07 08 09 10 77 99	
603	In the last 12 months, how do you get condoms most of the time? READ LIST PARTICIPANT TO SELECT ONE BEST ANSWER.	Client provides/brings condoms I get them for free from NGO I get them for free from my pimp/manager I buy them myself No answer	01 02 03 04 99	
604	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	
605	Have you ever heard of a female condom?	No Yes No answer	00 01 99	If no, skip to 607
606	Have you ever used a female condom?	No Yes No answer	00 01 99	
607	Do you usually carry any condoms with you?	No Yes No answer	00 01 99	If Yes, skip to 609
608	Why don't you usually carry condoms with you? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	I don't use condoms Available at the work place Clients bring their own condoms Don't think about it/forget Afraid of being caught carrying condoms	01 02 03 04 05	

		Others _____ No answer	77 99	
609	Have you ever had the experience of a condom breaking while having sex?	No Yes No answer	00 01 99	If No, skip to 613
610	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	
611	In the last one month, did you have the experience of the condom breaking?	No Yes No answer	00 01 99	
612	Did you have the experience of condom breaking the last time you had sex?	No Yes No answer	00 01 99	
613	Did you use lubricant the last time you had sex?	No Yes No answer	00 01 99	If No, skip to block VII
614	What kind of lubricant did you use at your last sex? DO NOT READ RESPONSES MULTIPLE RESPONSES POSSIBLE	Glycerin Saliva Gel (eg. Ahphaw gel) Body lotion/ /cosmetic oils Cooking oil/butter Other (specify): _____ No answer	01 02 03 04 05 77 99	

BLOCK VII. SYMPTOMS OF STIs

Now I would like to ask you about symptoms of sexually transmitted infections. You are doing really well and there are just a few short sections remaining.

#	Question	Answers	Codes	Skip to
701	Have you ever heard of diseases that can be transmitted through sexual intercourse?	No Yes No answer	00 01 99	If No, skip to 704
702	Can you describe any symptoms of sexually transmitted infections in women? CIRCLE ALL THAT ARE MENTIONED	Abdominal pain White or foul smelling discharge Itchiness around genitalia Burning/ painful urination Pain during sex	01 02 03 04 05	

	DO NOT READ LIST	Genital ulcer Swelling in groin Infertility No symptoms Other _____ Don't know/ remember No answer	06 07 08 09 77 88 99	
703	Can you describe any symptoms of sexually transmitted infections in men? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Discharge from penis Burning/ painful urination Pain during sex Genital ulcer Swelling in groin No symptoms Other _____ Don't know/ remember No answer	01 02 03 04 05 06 77 88 99	
704	In the last 12 months, did you have foul smelling discharge from your genitalia?	No Yes No answer	00 01 99	
705	In the last 12 months, did you have ulcer on your genitalia?	No Yes No answer	00 01 99	
706	In the last 12 months, if you had discharge or ulcer, did you seek treatment? (ask only those who answer "Yes" in 704 or 705)	No Yes No answer	00 01 99	If No, skip to block VIII
707	If medical treatment has been taken, 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	
708	How long did you have this symptom before seeking treatment?	Days _____ Months _____ Don't know/remember No answer	 88 99	

BLOCK XIII. 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	Answers	Codes	Skip to

801	Have you ever had any alcohol drink?	No Yes No answer	00 01 99	If No/ No answer, skip to 807
802	In the last 12 months, have you had any alcoholic drink (liquor, beer, toddy, brew etc.)?	No Yes	00 01	If No, skip to 807
803	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	
804	In the last 12 months, did you use alcohol to make sex work easier?	No Yes No answer	00 01 99	
805	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 807
806	In the last one year, how often did you use condoms when you were drunk during sex? 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	
807	Have you ever used drugs for non-medical purposes?	No Yes No answer	00 01 99	If No/No answer, skip to 814
808	How did you use drugs for non-medical purposes?	Injecting method Non-injecting methods Both	01 02 03	If “02”, skip to 811
809	In the last 12 months, have you injected drugs for non-medical purposes?	No Yes No answer	00 01 99	If No, skip to 811
810	Have you shared needle during those last 12 months?	No Yes No answer	00 01 99	
811	In the last 12 months, did you use drugs to make sex work easier? (not including sex drugs)	No Yes No answer	00 01 99	
812	In the last 12 months, did you have sex under the influence of drugs?	No Yes No answer	00 01 99	If No, skip to 814
813	In the last 12 months, when you were under the influence of drugs and had sex, how often do you use condoms?	Always Most times About half the times Occasionally Never	01 02 03 04 05	

	READ THE FIRST FIVE RESPONSES. PARTICIPANT TO SELECT ONE BEST ANSWER.	No answer	99	
814	In the last 12 months, have you accepted drugs as payment for sex?	No Yes No answer	00 01 99	
815	In the last 12 months, have you had any partner who injects drugs?	No Yes Don't know/Not notice No answer	00 01 88 99	

BLOCK IX. HIV KNOWLEDGE **Now I would like to ask you some questions about your understanding for how HIV is transmitted and how a person can protect themselves from getting infected.**				
#	Question	Answers	Codes	Skip to
901	Have you ever received information on HIV or AIDS?	No Yes No answer	00 01 99	If No, skip to 903
902	From where/whom did you receive most information about HIV? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	Health providers (public/private) School teacher/personnel Radio/ TV/ Magazine IEC materials (poster, pamphlet etc) Internet/Social media Relatives/Friends Peers Other (Specify):_____ No answer	01 02 03 04 05 06 07 77 99	
903	Can a person get HIV by having sex with only one uninfected partner who has no other partners?	No Yes No answer	00 01 99	
904	Can a person get HIV from mosquito bites?	No Yes No answer	00 01 99	
905	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	
906	Can a person get HIV by sharing food with someone who is infected?	No Yes No answer	00 01 99	
907	Can a person get HIV by injecting with a needle that was already used by someone else?	No Yes No answer	00 01 99	
908	Can a healthy-looking person have HIV?	No Yes No answer	00 01 99	

909	Have you heard that there is a treatment for HIV/AIDS?	No Yes No answer	00 01 99	
910	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 912
911	Where can you have an HIV test? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	HCT at AIDS/STD Team Public hospital GP/private clinic/private hospital Clinics at NGOs Other (Specify) _____ No answer	01 02 03 04 77 99	
912	Have you ever been tested for HIV?	No Yes No answer	00 01 99	If Yes, skip to 914
913	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 923
914	When was the last time you were tested for HIV?	Within the last 6 months 6-12 months ago Over one year ago Don't know/remember No answer	00 01 02 88 99	
915	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 Was pregnant Recommended by doctor For regular blood testing Forced by employer Other (Specify) _____ No answer	01 02 03 04 05 06 07 77 99	
916	Where did you go for HIV testing last time when you had an HIV test? CIRCLE SINGLE BEST RESPONSE. 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	
917	Did you get the results of that last HIV test?	No Yes No answer	00 01 99	If No, skip to 923

918	Last time when you had an HIV test, did you share your test result with others?	No Yes No answer	00 01 99	If No, Skip to 920
919	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 _____ No answer	01 02 03 04 05 06 07 77 99	
920	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/No answer, skip to 923
921	If positive, are you receiving any kind of HIV treatment/care and support?	No Yes No answer	00 01 99	If No, skip to 923
922	Where are you receiving HIV treatment/care and support? CIRCLE ALL THAT ARE MENTIONED DO NOT READ LIST	AIDS/STD Team Public hospital/clinic Private hospital/clinic/GP Clinics at NGOs Other _____ No answer	01 02 03 04 77 99	
923	Has your last regular partner ever tested for HIV?	No Yes Has no regular partner/spouse Don't know/ remember No answer	00 01 02 88 99	If No/No partner, Skip to block X
924	Do you know the HIV status of your partner?	Yes, he said he is negative Yes, he said he is positive Have not discussed this with my partner Don't know/ remember No answer	00 01 02 88 99	

BLOCK X. 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
1001	In the last 12 months, how often do you feel that if you disclosed receiving money or gifts in exchange for sex to some people, they would not talk to you anymore?	Never Sometimes Often Always No answer	00 01 02 03 99	
1002	In the last 12 months, how often did you feel that if you disclosed receiving money or gifts in exchange for sex to some people, you would be threatened with violence?	Never Sometimes Often Always No answer	00 01 02 03 99	
1003	In the last 12 months, how often have you been afraid of seeking health care because you receive money or gifts in exchange for sex?	Never Sometimes Often Always No answer	00 01 02 03 99	
1004	In the last 12 months, how often has your family or relatives rejected you because you receive money or gifts in exchange for sex?	Never Sometimes Often Always No answer	00 01 02 03 99	
1005	In the last 12 months, how often have you been hit or beaten up due to being a sex worker?	Never Sometimes Often Always No answer	00 01 02 03 99	
1006	In the last 12 months, how often has anyone physically forced you to have sexual intercourse when you didn't want to?	Never Sometimes Often Always No answer	00 01 02 03 99	
1007	In the last 12 months, how often have you had sexual intercourse when you didn't want because you were afraid of what a client might do?	Never Sometimes Often Always No answer	00 01 02 03 99	
1008	In the last 12 months, how often has a client forced you to do something sexual that you found degrading or humiliating?	Never Sometimes Often Always No answer	00 01 02 03 99	
1009	In the last 12 months, how often have you been harassed by police or other authorities because of exchanging sex for money or gifts?	Never Sometimes Often Always No answer	00 01 02 03 99	
1010	Have you ever been arrested or detained? (by any cause)	No Yes	00 01	If No, Skip to block XI

		No answer	99	
1011	Have you ever been arrested or detained because of exchanging sex for money or gifts?	No Yes No answer	00 01 99	

BLOCK XI. EXPOSURE TO INTERVENTIONS **Now I would like to ask you questions about HIV and prevention services that you might have used in the past few months**				
#	Question	Answers	Codes	Skip to
1101	In the last 12 months, have you been given condoms, including condoms distributed by an outreach service?	No Yes No answer	00 01 99	
1102	In the last 12 months, have you been given lubricant, including lubricant distributed by outreach workers?	No Yes No answer	00 01 99	
1103	Did you receive an HIV test from ---------- during January to March 2015 (3 months)?	No Yes No answer	00 01 99	
1104	Did you visit ---------- during January to March 2015 (3 months)?	No Yes No answer	00 01 99	
1105	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 answers.

Annex 5: Site Profile

Yangon Site Profile

Sample Recruitment

State/ Division	RDS Center	Total Enrolment (including seeds)	# seeds	Non-eligible & refused	Fully Participated (including seeds)
YANGON		409	6	10	399

Basic Characteristics

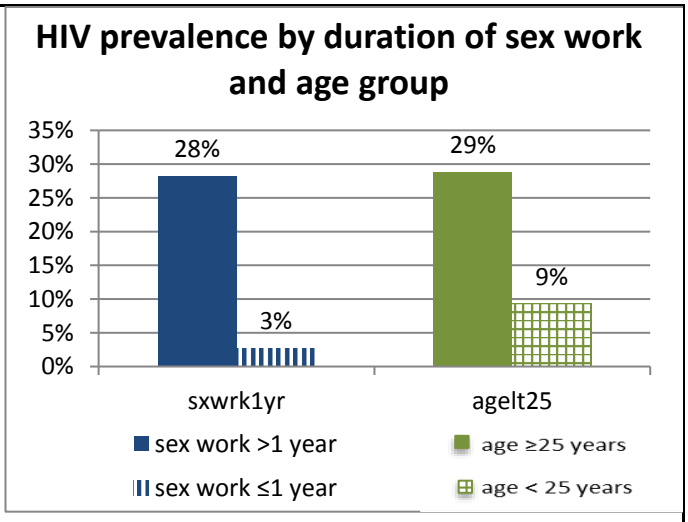
		Mean	Median
Age in Years		31	30
Monthly income (kyats)		195,139	200,000
% of income from sex work		0.8	1
		%	**95% CI**
<25 years old		21	(16-26)
Highest Education Level completed	Never been to school	16	*(11-20)*
	1-4th	43	*(37-48)*
	5-8th	*26*	*(21-32)*
	9-10th	*14*	*(10-19)*
	Univ/ College	1	*(0-2)*
Can't read or write (Myanmar Language)		16	*(12-21)*

		%	95% CI
Type of sex work by place of solicitation^	**Visible**	49	*(43-56)*
	Semi visible	28	*(22-34)*
	Hidden	23	*(17-28)*
Selling sex ≤ 1yr		14	*(10-19)*
Sex work is the main source of income		90	*(87-94)*
Marital status	**Currently married**	18	*(14-23)*
	Divorced, separated, widowed	73	*(68-78)*
	Never married	9	*(6-12)*
Have children		73	*(68-78)*

^ Visible includes: Public places such as streets, parks, railways, etc; Semi visible includes: Brothels, Massage parlors, Club, Restaurant, Karaoke bar, Hotel; Hidden includes: SW's house, Client's house, Referral, Call girl, Phone-based, internet.

HIV and STIs

		% (95%CI)
Overall HIV Prevalence		25(19-31)
HSS (2014) HIV prevalence		7
HIV prevalence (%) among		
Age group	<25 year	9
	≥25 year	29
Selling sex	≤ 1year	3
	> 1 year	28
Sex work type	**Visible**	25
	Semi-visible	25
	Hidden	23
Genital discharge or ulcer in the last 12 months		7(4-10)



Stigma, Discrimination and Violence

	%	95% CI
Always pretend not to be FSW	6	*(4-9)*
Always feel threatened with violence for being FSW	2	*(0-3)*

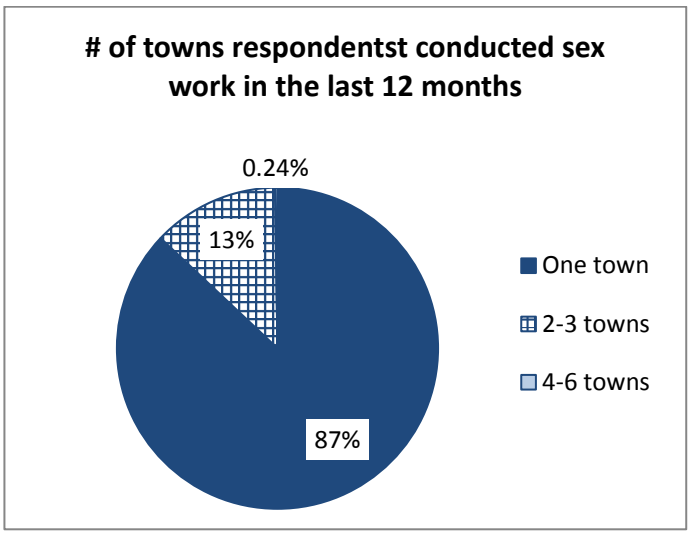
	%	95% CI
Always afraid to seek health care because of sex work	1	*(0-2)*
Ever arrested or detained because of sex work	10	*(6-13)*

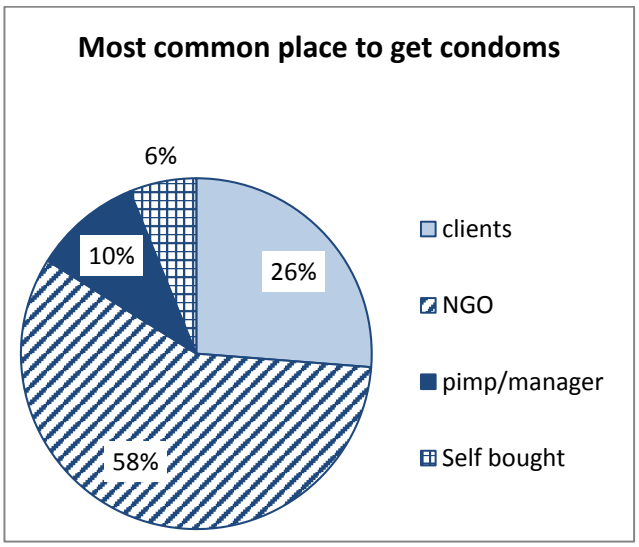
Sexual Risk Behavior

	% (95%CI)	Mean	Median
# of weeks in a month doing sex work#		3	4
# of days in a week doing sex work#		4	4
# of sex work days in a month#		14	12
# of clients in the past month#		29	24
# of regular male partner in the past 12 months#		4	1
Had sex with regular partner in the last month#	65 (59-71)		
# of casual, non-paying partner in the past 12 months		3	2
Had sex with casual partner in the last month#	3 (1-5)		

	%	95% CI
First exchanged of sex by forced or convinced#	14	*(10-19)*
Ever had anal sex with client#	1	*(0-3)*
Always condom use with regular partner	69	*(63-76)*
Last time condom use with regular partner	65	*(60-71)*
Always condom use with casual partner	47	*(10-85)*
Last time condom use with casual partner	73	*(35-112)*
Always condom use with clients#	81	*(77-86)*
Last time condom use with client#	95	*(92-98)*

among all respondents





Knowledge and Service Utilization

	%	95% CI
Comprehensive knowledge about HIV prevention#	64	*(58-70)*
Aware of HIV treatment#	99	*(97-100)*
% who 'know their status'*	80	*(69-91)*
% on treatment among those who 'know their status'*	97	*(88-105)*

	%	95% CI
GARPR prevention (received condoms in the last 12 months & know a place for testing) #	65	*(62-76)*
Ever tested for HIV#	68	*(62-75)*
Tested in the last year & received result#	44	*(38-50)*
Last regular partner ever tested for HIV	55	*(44-65)*

**'know their status'* is defined as testing HIV positive in the IBBS and who report their last test result was HIV positive if they have ever been tested. # among all respondents

Population Size Estimate

Yangon (YCDC area) Consensus estimate*	7,160	Size as a % of 15-49 female population	0.43	Estimated 15-49 female Population	1,685,097

*estimated 15-49 FSW in Yangon (YCDC area).

Mandalay Site Profile

Sample Recruitment

State/ Division	RDS Center	Total Enrolment (including seeds)	# seeds	Non-eligible & refused	Fully Participated (including seeds)
Mandalay		395	7	14	381

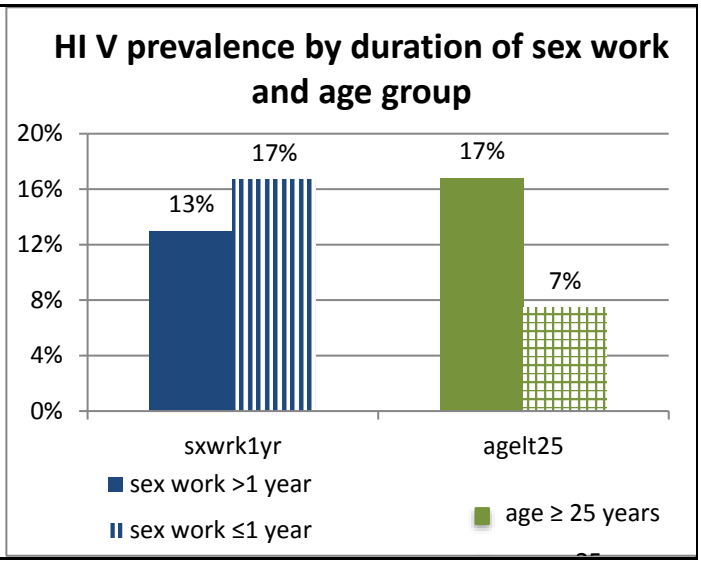
Basic Characteristics

		Mean	Median				%	95% CI
Age in Years		29	28		**Type of sex work by place of solicitation^**	**Visible**	51	*(42-59)*
Monthly income (kyats)		276,838	200,00			**Semi visible**	38	*(31-46)*
% of income from sex work		1	1					
		%	**95% CI**			**Hidden**	11	*(6-16)*
<25 years old		33	(26-39)		**Selling sex ≤ 1yr**		17	*(11-22)*
Highest Education Level completed	Never been to school	20	*(15-26)*		**Sex work is the main source of income**		92	*(88-95)*
	1-4th	32	*(25-39)*		**Marital status**	**Currently married**	42	*(35-50)*
	5-8th	28	*(22-34)*			**Divorced,separated , widowed**	39	*(32-46)*
	9-10th	14	*(10-19)*					
	Univ/ College	5	*(2-8)*			**Never married**	19	*(13-25)*
Can't read or write (Myanmar Language)		20	*(14-26)*		**Have children**		62	*(55-69)*

^ Visible includes: Public places such as streets, parks, railways, etc; Semi visible includes: Brothels, Massage parlors, Club, Restaurant, Karaoke bar, Hotel; Hidden includes: SW's house, Client's house, Referral, Call girl, Phone-based, internet.

HIV and STIs

		% (95%CI)
Overall HIV Prevalence		14(8-20)
HSS (2014) HIV prevalence		7
HIV prevalence (%) among		
Age group	<25 year	7
	≥25 year	17
Selling sex	≤ 1year	17
	> 1 year	13
Sex work type	**Visible**	20
	Semi visible	6
	Hidden	11
Genital discharge or ulcer in the last 12 months		44 (38-51)



Stigma, Discrimination and Violence

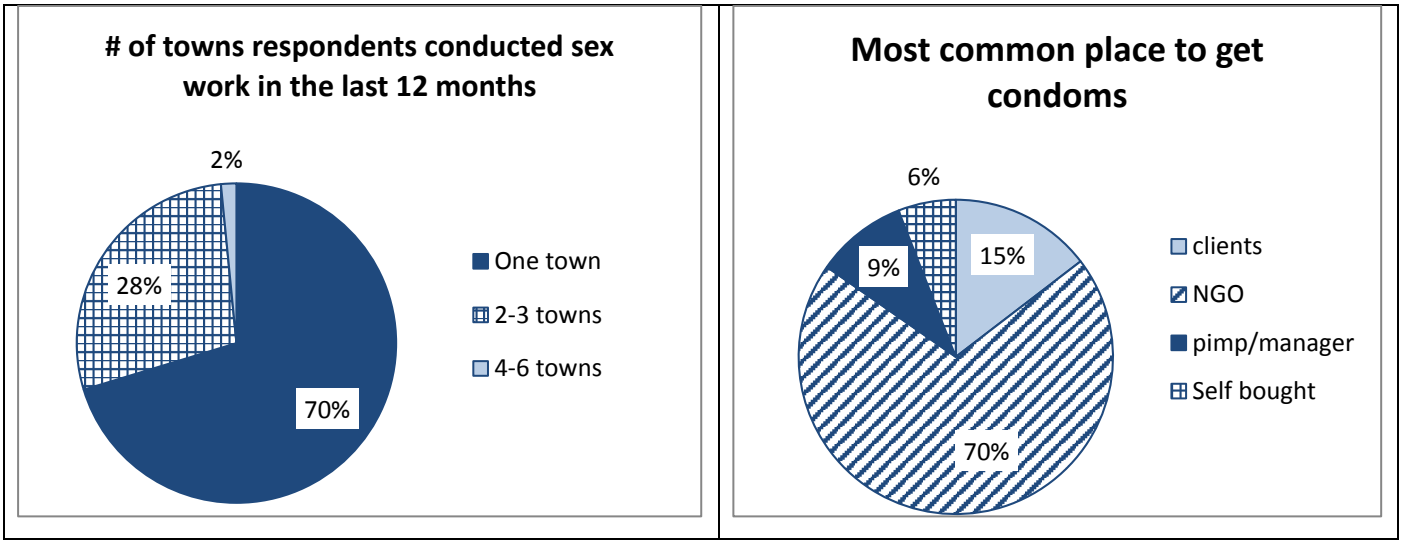
	%	95% CI		%	95% CI
Always pretended not to be FSW	5	*(3-8)*	**Always afraid to seek health care because of sex work**	2	*(0-4)*
Always feel threatened with violence for being FSW	1	*(0-2)*	**Ever arrested or detained because of sex work**	19	*(13-25)*

Sexual Risk Behavior

	% (95%CI)	Mean	Median
# of weeks in a month doing sex work#		3	3
# of days in a week doing sex work#		4	4
# of sex work days in a month#		13	12
# of clients in the past month#		36	20
# of regular male partner in the past 12 months#		7	1
Had sex with regular partner in the last month#	71 (65-77)		
# of casual, non-paying partner in the past 12 months		4	2
Had sex with casual partner in the last month#	3 (1-6)		

	%	95% CI
First exchanged of sex by forced or convinced#	32	*(25-38)*
Ever had anal sex with client#	8	*(5-12)*
Always condom use with regular partner	26	*(17-34)*
Last time condom use with regular partner	45	*(37-53)*
Always condom use with casual partner	20	*(4-36)*
Last time condom use with casual partner	Can't run	
Always condom use with clients#	36	*(29-43)*
Last time condom use with client#	79	*(74-84)*

among all respondents



Knowledge and Service Utilization

	%	95% CI
Comprehensive knowledge about HIV prevention#	66	*(59-72)*
Aware of HIV treatment#	80	*(74-86)*
% who 'know their status'*	73	*(55-93)*
% on treatment among those who 'know their status'*	74	*(52-95)*

	%	95% CI
GARPR prevention (received condoms in the last 12 months & know a place for testing) #	76	*(68-83)*
Ever tested for HIV#	78	*(71-86)*
Tested in the last year & received result#	60	*(52-67)*
Last regular partner ever tested for HIV	43	*(35-52)*

**'know their status'* is defined as testing HIV positive in the IBBS and who report their last test result was HIV positive if they have ever been tested.; # among all respondents.

Population Size Estimate

Mandalay (7 tsp) Consensus estimate	5,277	**Size as a % of 15-49 female population**	1.07%	**Estimated 15-49 female Population**	492,148

*estimated 15-49 FSW in Mandalay (7 townships)

Monywa Site Profile

Sample Recruitment

State/ Division	RDS Center	Total Enrolment (including seeds)	# seeds	Non-eligible & refused	Fully Participated (including seeds)
Sagaing	Monywa	415	7	19	396

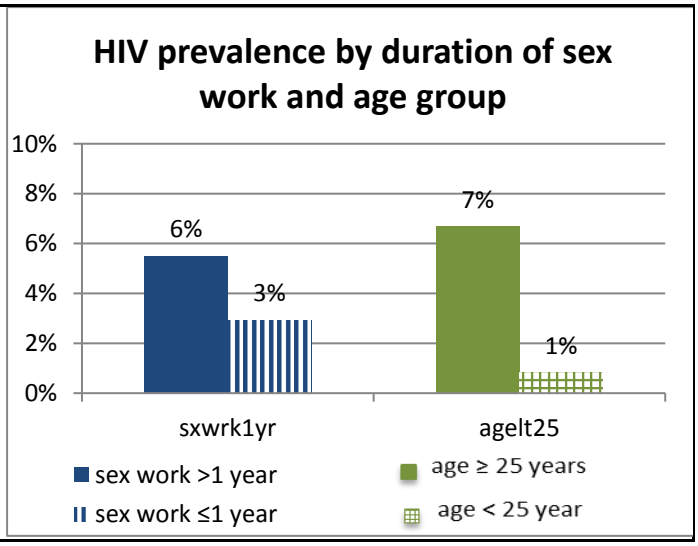
Basic Characteristics

		Mean	Median				%	95% CI
Age in Years		30	30		**Type of sex work by place of solicitation^**	**Visible**	30	*(25-36)*
Monthly income (kyats)		195,737	150,000			**Semi visible**	36	*(30-43)*
% of income from sex work		0.6	0.5			**Hidden**	33	*(28-39)*
		%	**95% CI**					
<25 years old		28	(22-33)		**Selling sex ≤ 1yr**		19	*(15-23)*
Highest Education Level completed	Never been to school	13	*(10-17)*		**Sex work is the main source of income**		48	*(42-54)*
	1-4th	50	*(44-56)*		**Marital status**	**Currently married**	56	*(50-63)*
	5-8th	*24*	*(19-29)*			**Divorced, separated, widowed**	34	*(28-40)*
	9-10th	*10*	*(7-13)*					
	Univ/ College	3	*(1-5)*			**Never married**	10	*(7-14)*
Can't read or write (Myanmar Language)		22	*(16-27)*		**Have children**		75	*(70-81)*

^ Visible includes: Public places such as streets, parks, railways, etc; Semi visible includes: Brothels, Massage parlors, Club, Restaurant, Karaoke bar, Hotel; Hidden includes: SW's house, Client's house, Referral, Call girl, Phone-based, internet.

HIV and STIs

		% (95%CI)
Overall HIV Prevalence		5 (3-7)
HSS (2014) HIV prevalence		4
HIV prevalence (%) among		
Age group	<25 year	1
	≥25 year	7
Selling sex	≤ 1year	3
	> 1 year	6
Sex work type	**Visible**	0
	Semi-visible	7
	Hidden	8
Genital discharge or ulcer in the last 12 months		38 (31-44)



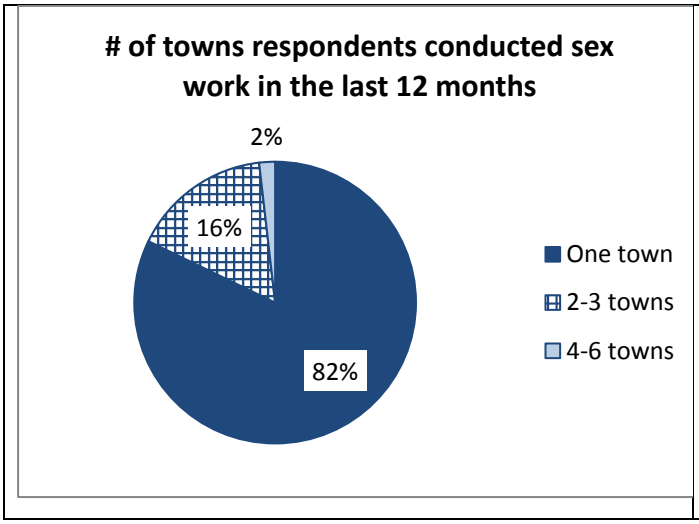
Stigma, Discrimination and Violence

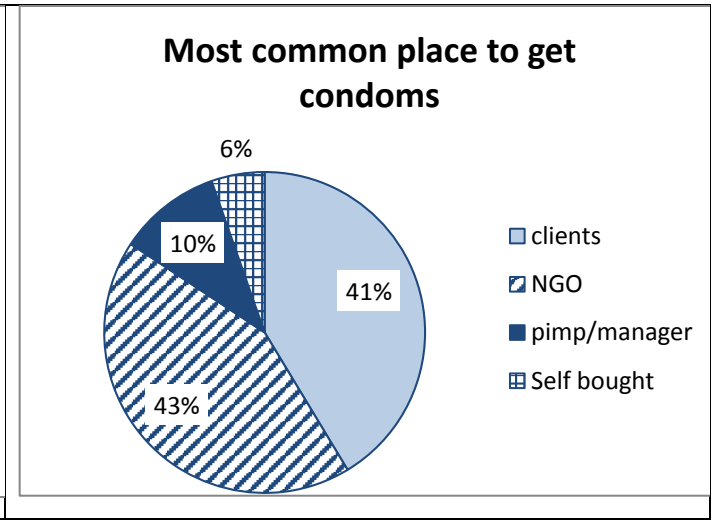
	%	95% CI		%	95% CI
Always pretend not to be FSW	17	*(13-21)*	**Always afraid to seek health care because of sex work**	5	*(3-8)*
Always feel threatened with violence for being FSW	4	*(2-6)*	**Ever arrested or detained because of sex work**	5	*(2-8)*

Sexual Risk Behavior

	% (95%CI)	Mean	Median		%	95% CI
# of weeks in a month doing sex work#		3	3	**First exchanged of sex by forced or convinced#**	26	*(21-31)*
# of days in a week doing sex work#		3	3	**Ever had anal sex with client#**	11	*(7-15)*
# of sex work days in a month#		8	6	**Always condom use with regular partner**	15	*(8-22)*
# of clients in the past month#		19	6	**Last time condom use with regular partner**	22	*(16-27)*
# of regular male partner in the past 12 months#		1	1	**Always condom use with casual partner**	14	*(1-27)*
Had sex with regular partner in the last month#	63 (57-69)			**Last time condom use with casual partner**	55	*(25-83)*
# of casual, non-paying partner in the past 12 months		5	2	**Always condom use with clients#**	44	*(35-52)*
Had sex with casual partner in the last month#	9 (5-14)			**Last time condom use with client#**	54	*(46-62)*

among all respondents





Knowledge and Service Utilization

	%	95% CI		%	95% CI
Comprehensive knowledge about HIV prevention#	25	*(19-30)*	**GARPR prevention (received condoms in the last 12 months & know a place for testing) #**	37	*(31-44)*
Aware of HIV treatment#	76	*(70-81)*	**Ever tested for HIV#**	39	*(32-45)*
% who 'know their status'*	53	*(30-74)*	**Tested in the last year & received result#**	18	*(13-23)*
% on treatment among those who 'know their status'*	77	*(66-89)*	**Last regular partner ever tested for HIV**	56	*(44-68)*

**'know their status'* is defined as testing HIV positive in the IBBS and who report their last test result was HIV positive if they have ever been tested.; #among all respondents.

Population Size Estimate

Monywa Consensus estimate*	1,406	**Size as a % of 15-49 female population**	1.32	**Estimated 15-49 female Population**	106,507

***Estimated 15-49 FSW in Monywa Township**

Pathein Site Profile

Sample Recruitment

State/ Division	RDS Center	Total Enrolment (including seeds)	# seeds	Non-eligible & refused	Fully Participated (including seeds)
Ayeyarwaddy	Pathein	438	6	37	401

Basic Characteristics

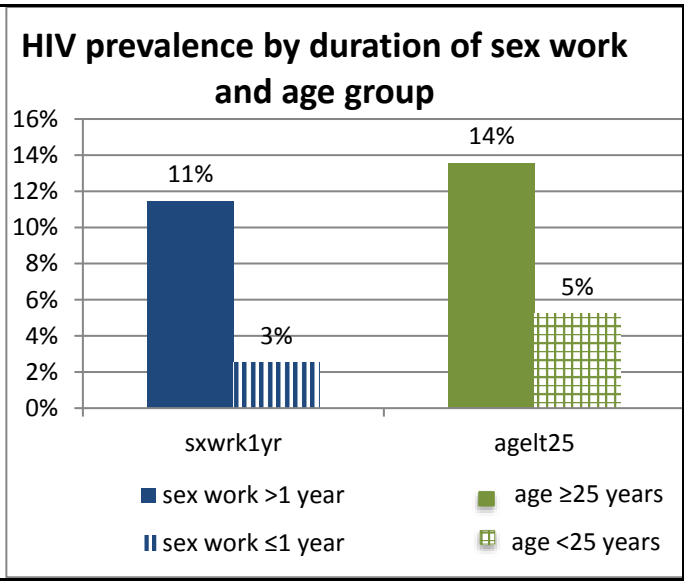
		Mean	Median
Age in Years		28	28
Monthly income (kyats)		248,869	200,000
% of income from sex work		0.9	1
		%	**95% CI**
<25 years old		34	(27-41)
Highest Education Level completed	Never been to school	19	*(12-26)*
	1-4th	43	*(36-50)*
	5-8th	*25*	*(19-31)*
	9-10th	*12*	*(7-16)*
	Univ/ College	1	*(0-2)*
Can't read or write (Myanmar Language)		13	*(8-17)*

		%	95% CI
Type of sex work by place of solicitation^	**Visible**	23	*(17-30)*
	Semi visible	64	*(57-71)*
	Hidden	13	*(7-18)*
Selling sex ≤ 1yr		8	*(3-13)*
Sex work is the main source of income		97	*(95-99)*
Marital status	**Currently married**	24	*(18-30)*
	Divorced, separated, widowed	67	*(60-73)*
	Never married	**9**	*(6-13)*
Have children		71	*(65-78)*

^ Visible includes: Public places such as streets, parks, railways, etc; Semi visible includes: Brothels, Massage parlors, Club, Restaurant, Karaoke bar, Hotel; Hidden includes: SW's house, Client's house, Referral, Call girl, Phone-based, internet.

HIV and STIs

		% (95%CI)
Overall HIV Prevalence		11 (6-15)
HSS (2014) HIV prevalence		13
HIV prevalence (%) among		
Age group	<25 year	5
	≥25 year	14
Selling sex	≤ 1year	3
	> 1 year	11
Sex work type	**Visible**	11
	Semi-visible	11
	Hidden	11
Genital discharge or ulcer in the last 12 months		55 (48-63)



Stigma, Discrimination and Violence

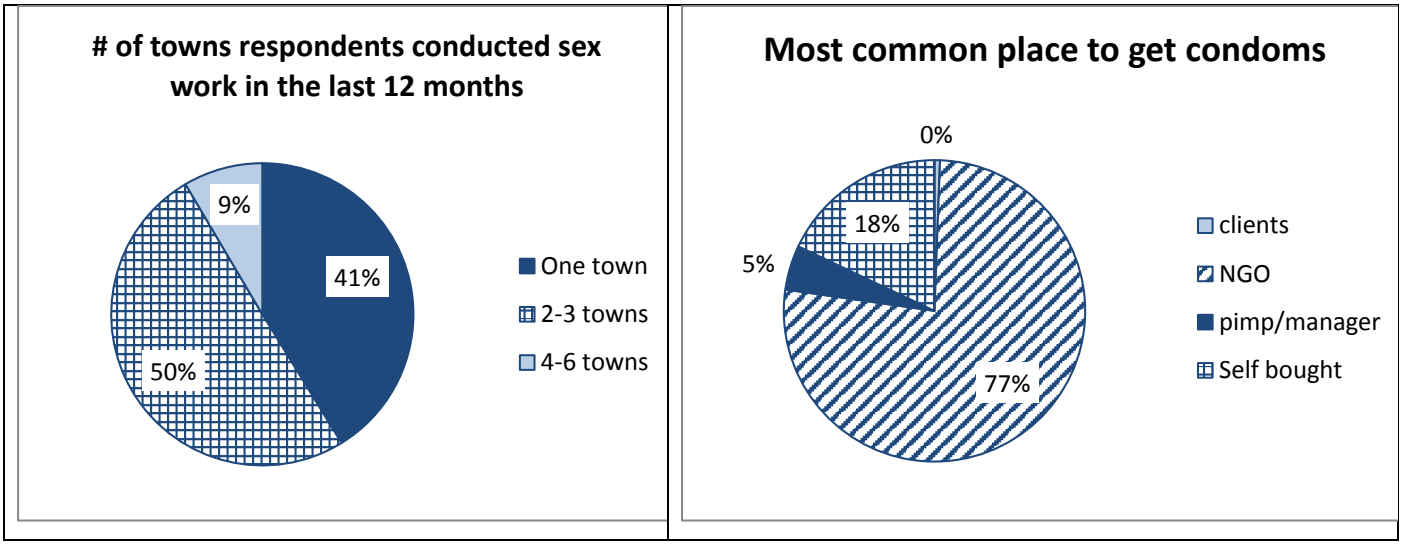
	%	95% CI
Always pretend not to be FSW	6	*(2-9)*
Always threatened with violence for being FSW	3	*(0-5)*

	%	95% CI
Always afraid to seek health care because of sex work	7	*(3-11)*
Ever arrested or detained because of sex work	16	*(10-21)*

Sexual Risk Behavior

	% (95%CI)	Mean	Median		%	95% CI
# of weeks in a month doing sex work#		4	4	**First exchanged of sex by forced or convinced#**	31	*(24-37)*
# of days in a week doing sex work#		5	5	**Ever had anal sex with client#**	7	*(5-10)*
# of sex work days in a month#		20	20	**Always condom use with regular partner**	14	*(6-22)*
# of clients in the past month#		81	60	**Last time condom use with regular partner**	31	*(22-39)*
# of regular male partner in the past 12 months#		1	1	**Always condom use with casual partner**	Can't run	
Had sex with regular partner in the last month#	67 (60-75)			**Last time condom use with casual partner**	Can't run	
# of casual, non-paying partner in the past 12 months		3	2	**Always condom use with clients#**	45	*(37-53)*
Had sex with casual partner in the last month#	9 (5-14)			**Last time condom use with client#**	89	*(84-93)*

among all respondents



Knowledge and Service Utilization

	%	95% CI		%	95% CI
Comprehensive knowledge about HIV prevention#	53	*(45-61)*	**GARPR prevention (received condoms in the last 12 months & know a place for testing)#**	92	*(88-96)*
Aware of HIV treatment#	82	*(76-87)*	**Ever tested for HIV#**	72	*(64-80)*
% who 'know their status'*	66	*(47-86)*	**Tested in the last year & received result#**	42	*(35-49)*
% on treatment among those who 'know their status'*	97	*(88-105)*	**Last regular partner ever tested for HIV**	42	*(33-51)*

**'know their status'* is defined as testing HIV positive in the IBBS and who report their last test result was HIV positive if they have ever been tested; #among all respondents.

Population Size Estimate

Pathein Consensus estimate*	1,541	**Size as a % of 15-49 female population**	1.52	**Estimated 15-49 female population**	101,235

*Estimated 15-49 FSW in Pathein Township

Pyay Site Profile

Sample Recruitment

State/ Division	RDS Center	Total Enrolment (including seeds)	# seeds	Non-eligible & refused	Fully Participated (including seeds)
Bago	Pyay	536	5	117	419

Basic Characteristics

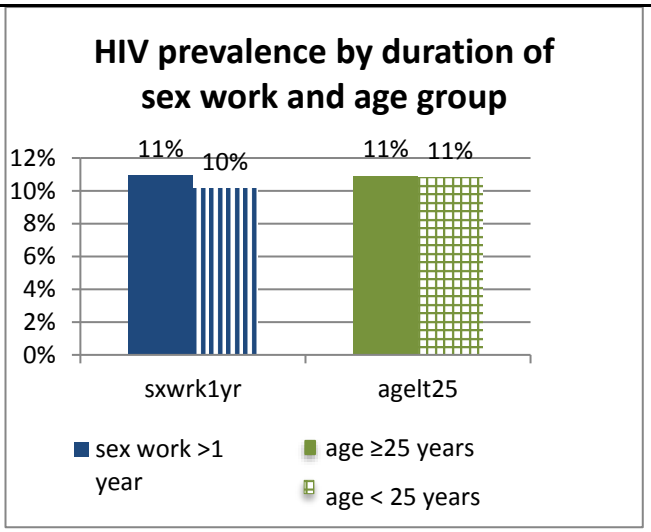
		Mean	Median
Age in Years		31	30
Monthly income (kyats)		257,693	200,000
% of income from sex work		0.9	1
		%	**95% CI**
<25 years old		22	*(18-26)*
Highest Education Level completed	Never been to school	13	*(10-16)*
	1-4th	39	*(35-43)*
	5-8th	*30*	*(25-34)*
	9-10th	*18*	*(14-21)*
	Univ/ College	1	*(0-1)*
Can't read or write (Myanmar Language)		17	*(14-21)*

		%	95% CI
Type of sex work by place of solicitation^	**Visible**	31	*(26-36)*
	Semi visible	39	*(34-43)*
	Hidden	30	*(26-35)*
Selling sex ≤ 1yr		12	*(9-15)*
Sex work is the main source of income		98	*(97-99)*
Marital status	**Currently married**	36	*(31-41)*
	Divorced,separated , widowed	53	*(48-57)*
	Never married	12	*(8-15)*
Have children		66	*(62-71)*

^ Visible includes: Public places such as streets, parks, railways, etc; Semi visible includes: Brothels, Massage parlors, Club, Restaurant, Karaoke bar, Hotel; Hidden includes: SW's house, Client's house, Referral, Call girl, Phone-based, internet.

HIV and STIs

		% (95%CI)
Overall HIV Prevalence		11 (8-14)
HSS (2014) HIV prevalence		2
HIV prevalence (%) among		
Age group	<25 year	11
	≥25 year	11
Selling sex	≤ 1year	10
	> 1 year	11
Sex work type	**Visible**	8
	Semi-visible	16
	Hidden	7
Genital discharge or ulcer in the last 12 months		33 (29-38)



Stigma, Discrimination and Violence

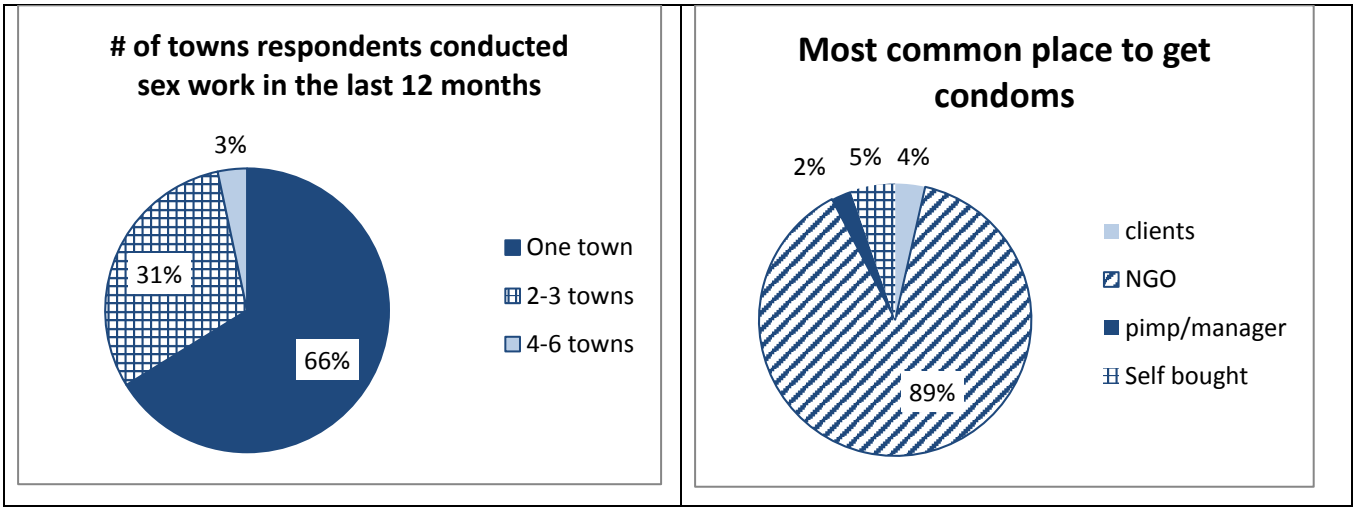
	%	95% CI
Always pretend not to be FSW	18	*(15-22)*
Always threatened with violence for being FSW	10	*(7-13)*

	%	95% CI
Always afraid to seek health care because of sex work	28	*(23-33)*
Ever arrested or detained because of sex work	7	*(5-10)*

Sexual Risk Behavior

	% (95%CI)	Mean	Median			%	95% CI
# of weeks in a month doing sex work#		3	3		First exchanged of sex by forced or convinced#	18	*(14-21)*
# of days in a week doing sex work#		5	5		Ever had anal sex with client#	11	*(8-13)*
# of sex work days in a month#		16	15		Always condom use with regular partner	Can't run	
# of clients in the past month#		55	45		Last time condom use with regular partner	Can't run	
# of regular male partner in the past 12 months#		1	1		Always condom use with casual partner	Can't run	
Had sex with regular partner in the last month#	53 (48-58)				Last time condom use with casual partner	Can't run	
# of casual, non-paying partner in the past 12 months		18	2		Always condom use with clients#	85	*(82-89)*
Had sex with casual partner in the last month#	8 (5-11)				Last time condom use with client#	93	*(91-96)*

among all respondents



Knowledge and Service Utilization

	%	95% CI			%	95% CI
Comprehensive knowledge about HIV prevention#	52	*(47-57)*		GARPR prevention (received condoms in the last 12 months & know a place for testing) #	93	*(90-96)*
Aware of HIV treatment#	88	*(84-91)*		Ever tested for HIV#	88	*(85-91)*
% who 'know their status'*	32	*(16-49)*		Tested in the last year & received result#	74	*(69-78)*
% on treatment among those who 'know their status'*	77	*(57-99)*		Last regular partner ever tested for HIV	39	*(32-46)*

**'know their status'* is defined as testing HIV positive in the IBBS and who report their last test result was HIV positive if they have ever been tested; # among all respondents.

Population Size Estimate

Pyay Consensus estimate*	675	Size as a % of 15-49 female population	0.98	Estimated 15-49 female Population	69,031

*Estimated 15-49 FSW in Pyay Township.

Annex 6. Detailed tables of survey variables

A. General Characteristics

Table A1. Age

	YGN	MDY	MYA	PTN	PYY	Variable name
Age <25 years old	21%	33%	28%	34%	22%	**agelt25**
95% CI	*(16-26)*	*(26-39)*	*(22-33)*	*(27-41)*	*(18-26)*	
Age - Mean	31	29	30	28	31	**v201**
Age - Median	30	28	30	28	30	
25th -75th %tile	*(25-37)*	*(23-34)*	*(24-37)*	*(23-34)*	*(25-36)*	
<20	5%	9%	9%	7%	6%	**agecat**
95% CI	*(3-8)*	*(5-12)*	*(5-13)*	*(4-10)*	*(4-8)*	
20-24	16%	24%	18%	27%	16%	
95% CI	*(11-20)*	*(18-30)*	*(14-23)*	*(20-34)*	*(13-20)*	
25-29	22%	25%	22%	27%	24%	
95% CI	*(17-28)*	*(18-33)*	*(16-27)*	*(21-33)*	*(20-27)*	
30-34	18%	22%	17%	16%	24%	
95% CI	*(14-23)*	*(16-27)*	*(13-21)*	*(11-21)*	*(20-28)*	
35+	38%	20%	34%	23%	30%	
95% CI	*(31-45)*	*(15-26)*	*(28-40)*	*(16-30)*	*(26-34)*	
Denominator(all)	399	381	396	401	419	

Table A2. Lived in current township one year or less

	YGN	MDY	MYA	PTN	PYY	Variable name
Lived in current township ≤1 yr	6%	9%	5%	1%	1%	**reslt1yr**
95% CI	*(3-9)*	*(5-13)*	*(3-7)*	*(0-2)*	*(0-3)*	
Denominator(all)	399	381	396	401	419	

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

	YGN	MDY	MYA	PTN	PYY	Variable name
For work	26%	74%	47%	59%	47%	**v206a**
95% CI	*(19-33)*	*(64-83)*	*(35-59)*	*(47-70)*	*(33-61)*	
For education/studies	0.3%	0.4%	2%	1%	0	**206b**
95% CI	*(0-1)*	*(0-1)*	*(0-3)*	*(1-2)*		
For health reason	1%	0%	0%	0%	2%	**206c**
95% CI	*(0-1)*				*(1-2)*	
Family moved	62%	13%	26%	32%	11%	**v206d**
95% CI	*(55-69)*	*(7-20)*	*(15-37)*	*(22-42)*	*(4-18)*	
Moved with partner	6%	7%	35%	9%	27%	**v206e**
95% CI	*(3-9)*	*(1-13)*	*(22-51)*	*(7-11)*	*(14-40)*	
Separated from family due to disaster/conflict/ family conflict	4%	8%	3%	2%	13%	**v206f**
95% CI	*(2-5)*	*((-2)-17)*	*((-1)-6)*	(0-5)	((-13)-40)	
Stigma and discrimination	1%	1%	1%			**v206g**
95% CI	*(0-2)*	*(0-1)*	*(0-2)*			
Other	0.4%	0%	0.4%	0%	0%	**v206h**
95% CI	*(0-1)*		(0-1)			
Denominator (respondents who moved from somewhere else)	269	173	139	118	52	

Table A4. Literacy in Myanmar Language

	YGN	MDY	MYA	PTN	PYY	Variable name
cannot read or write	16%	20%	22%	13%	17%	**v207**
95% CI	*(12-21)*	*(14-26)*	*(16-27)*	*(8-17)*	*(14-21)*	
can read only	*21%*	*1%*	*16%*	3%	4%	
95% CI	*(16-26)*	*(0-2)*	*(12-20)*	*(0-6)*	*(3-6)*	
can write only	5%	4%	2%	*9%*	*4%*	
95% CI	*(3-7)*	*(0-7)*	*(1-4)*	*(3-16)*	*(2-6)*	
can read and write	57%	75%	60%	75%	75%	
95% CI	*(52-63)*	*(69-82)*	*(54-66)*	*(68-82)*	*(70-79)*	
Denominator(all)	399	381	396	401	419	

Table A5. Ever been to school

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever been to school	84%	80%	87%	81%	87%	**v208**
95% CI	*(80-89)*	*(74-85)*	*(83-90)*	*(74-87)*	*(84-90)*	
Denominator	399	381	396	401	419	

Table A6. Current educational status

	YGN	MDY	MYA	PTN	PYY	Variable name
Currently a student	1%	0%	1%	0.2%	0%	**v209**
95% CI	*((-1)-3)*		*((-2)-4)*	*(0.1-0.2)*		
Denominator (respondents who had ever been to school)	339		337	343		

Table A7. Highest education completed

	YGN	MDY	MYA	PTN	PYY	Variable name
No education	16%	20%	13%	19%	13%	**educall**
95% CI	*(11-20)*	*(15-26)*	*(10-17)*	*(12-26)*	*(10-16)*	
1-4th standard	*43%*	*32%*	*50%*	43%	39%	
95% CI	*(37-48)*	*(25-39)*	*(44-56)*	*(36-50)*	*(35-43)*	
5-8th standard	26%	28%	24%	*25%*	*30%*	
95% CI	*(21-32)*	*(22-34)*	*(19-29)*	*(19-31)*	*(25-34)*	
9-10th standard	14%	14%	10%	12%	18%	
95% CI	*(10-19)*	*(10-19)*	*(7-13)*	*(7-16)*	*(14-21)*	
University/college	1%	5%	3%	1%	1%	
95% CI	*(0-2)*	*(2-8)*	*(1-5)*	*(0-2)*	*(0-1)*	
Denominator (all)	399	381	395	401	419	

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

	YGN	MDY	MYA	PTN	PYY	Variable name
Sex work	98%	98%	95%	100%	100%	**v211a**
95% CI	*(95-100)*	*(95-100)*	*(92-97)*			
Broker/pimp	1%	0%	1%	3%	2%	**v211b**
95% CI	*(0-1)*		*(0-2)*	*(1-6)*	*(1-3)*	
Salaried	4%	0%	4%	0.1%	3%	**v211c**
95% CI	*(2-6)*		*(1-8)*	*(0-0.3)*	*(2-5)*	
Farming/agriculture	0.3%	0%	0.2%	0%	0%	**v211d**
95% CI	*(0-1)*		*(0-0.5)*			
Manual/unskilled laborer	15%	3%	64%	15%	29%	**v211e**
95% CI	*(10-19)*	*(1-5)*	*(57-70)*	*(9-21)*	*(25-33)*	
Trade/business/shop	6%	2%	11%	3%	1%	**v211f**
95% CI	*(3-9)*	*(1-3)*	*(6-17)*	*(1-5)*	*(0-1)*	
Beauty salon/massage	2%	2%	1%	7%	3%	**v211g**

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*(1-3)*	*(0-4)*	*(0-2)*	*(4-10)*	*(1-5)*	
Entertainment (eg. Karaoke)	5%	26%	2%	13%	3%	**v211h**
95% CI	*(2-7)*	*(20-32)*	*(1-4)*	*(9-18)*	*(1-5)*	
Unemployed/dependent	0%	0%	20%	0%	0%	**v211i**
95% CI			*(14-26)*			
Denominator (all)	399	381	396	401	419	

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

	YGN	MDY	MYA	PTN	PYY	Variable name
Sex work	90%	92%	48%	97%	98%	**v212**
95% CI	*(87-94)*	*(88-95)*	*(42-54)*	*(95-99)*	*(97-99)*	
Broker/pimp	0.3%	0%	0.4%	1%	1%	
95% CI	*(0-1)*		*(0-1)*	*(0-3)*	*(0-2)*	
Salaried	0.5%	0%	3%	0%	0%	
95% CI	*(0-1)*		*(1-5)*			
Farming/agriculture	0%	0%	0%	0%	0%	
95% CI					*1%*	
Manual/unskilled laborer	2%	0%	32%	0%	(0-1)	
95% CI	*(0-3)*		*(26-38)*			
Trade/business/shop	2%	0.2%	7%	0.2%	0%	
95% CI	*(0-3)*	*(0-0.7)*	*(3-12)*	*(0-0.4)*		
Beauty salon/massage	1%	0%	0.4%	0.5%	0%	
95% CI	*(0-2)*		*(0-1)*	*(0-1)*		
Entertainment (eg. Karaoke)	4%	8%	2%	1%	0%	
95% CI	*(2-7)*	*(5-11)*	*(1-3)*	*(0-3)*		
Unemployed/dependent	0%	0%	7%	0%	0%	
95% CI			*(4-11)*			
Denominator (all)	399	381	396	401	419	

Table A10. Monthly income (kyats)

	YGN	MDY	MYA	PTN	PYY	Variable name
Monthly income - Mean	195,139	276,838	195,737	248,869	257,693	**v213**
Monthly income - Median	200,000	200,000	150,000	200,000	200,000	
25th -75th %tile	*(150,000-250,000)*	*(150,000-300,000)*	*(100,000-250,000)*	*(150,000-300,000)*	*(150,000-300,000)*	
Income less than overall median value 200,000kyats	48%	34%	63%	34%	40%	**incomlt2lakh**
95% CI	*(42-55)*	*(27-42)*	*(57-69)*	*(27-42)*	*(35-45)*	
Denominator (all)	399	381	368	401	418	

Table A11. Monthly income from sex work

	YGN	MDY	MYA	PTN	PYY	Variable name
Monthly income - Mean	159,784	266,961	120,429	220,997	224,168	**v214**
Monthly income - Median	150,000	200,000	80,000	200,000	200,000	
25th -75th %tile	*(100,000-200,000)*	*(150,000-300,000)*	*(40,000 - 150,000)*	*(150,000-300,000)*	*(120,000-300,000)*	
% of income from sex work - Mean	0.8	1.0	0.6	0.9	0.9	**pctwincom**
% of income from sex work- Median	1.0	1.0	0.5	1.0	1.0	
25th -75th %tile	(0.7-1)	(1-1)	(0.3-0.8)	(0.8-1)	(0.8-1)	
income from sex work ≥75 %	71%	96%	26%	83%	78%	**pctswincom75**
95% CI	(64-78)	(93-99)	(20-33)	(77-88)	(73-82)	
Sex-work income less than 200,000kyats	67%	37%	78%	44%	48%	**swincomlt2lakh**
95% CI	*(61-73)*	*(29-44)*	*(72-84)*	*(36-51)*	*(43-54)*	
Denominator (all)	399	381	396	401	418	

Table A12.Current marital status

	YGN	MDY	MYA	PTN	PYY	Variable name
Currently married	18%	42%	56%	24%	36%	**v215**
95% CI	*(14-23)*	*(35-50)*	*(50-63)*	*(18-30)*	*(31-41)*	
Ever married	*73%*	*39%*	*34%*	67%	53%	
95% CI	*(68-78)*	*(32-46)*	*(28-40)*	*(60-73)*	*(48-57)*	
Never married	9%	19%	10%	*9%*	*12%*	
95% CI	*(6-12)*	*(13-25)*	*(7-14)*	*(6-13)*	*(8-15)*	
Denominator (all)	399	381	395	401	419	

Table A13. Respondents who have children

	YGN	MDY	MYA	PTN	PYY	Variable name
Has children	73%	62%	75%	71%	66%	**v216**
95% CI	*(68-78)*	*(55-69)*	*(70-81)*	*(65-78)*	*(62-71)*	
no children	27%	38%	25%	29%	34%	**childcat**
95% CI	*(22-33)*	*(31-45)*	*(19-30)*	*(22-35)*	*(29-38)*	
one child	28%	30%	22%	34%	32%	
95% CI	*(22-33)*	*(24-37)*	*(18-27)*	*(27-40)*	*(28-36)*	
≥ 2 children	45%	32%	53%	38%	34%	
95% CI	*(39-51)*	*(25-39)*	*(47-60)*	*(30-46)*	*(30-39)*	
Denominator(all)	399	381	396	401	419	
# of children - Mean	2.1	1.9	2.3	1.9	2.0	**v217**
# of children - Median	2	2	2	2	2	
25th -75th %tile	*(1-3)*	*(1-3)*	*(1-3)*	*(1-2)*	*(1-3)*	
Denominator (Respondent who have children)	286	241	300	274	272	

Table A14. Current household composition

	YGN	MDY	MYA	PTN	PYY	Variable name
Lives with spouse/partner	14%	38%	45%	22%	29%	**v218**
95% CI	*(10-18)*	*(30-45)*	*(38-52)*	*(16-28)*	*(24-33)*	
Lives with parents/relatives	*41%*	*15%*	*30%*	40%	34%	
95% CI	*(34-48)*	*(11-20)*	*(25-36)*	*(32-48)*	*(29-38)*	
Lives with friends	*8%*	*11%*	*5%*	*16%*	*8%*	
95% CI	*(5-12)*	*(6-15)*	*(2-7)*	*(10-21)*	*(6-11)*	
Lives alone	8%	15%	2%	6%	6%	
95% CI	*(5-11)*	*(10-20)*	*(1-4)*	*(2-9)*	*(4-8)*	
Lives with their children	28%	19%	18%	14%	19%	
95% CI	(23-33)	(14-25)	(13-22)	(9-18)	(16-23)	
Lives with broker/manager/pimp	1%	2%	0.3%	3%	4%	
95% CI	*(0-2)*	*(0-3)*	*(0-0.5)*	*(1-4)*	*(2-6)*	
Denominator (all)	399	381	396	401	419	

Table A15. Use of contraceptive methods (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever used	82%	68%	90%	97%	96%	**v219**
95% CI	*(78-87)*	*(61-75)*	*(87-93)*	*(95-99)*	*(94-98)*	
Denominator (all)	399	381	396	401	419	
Condom	83%	8%	61%	51%	97%	**v220a**
95% CI	*(77-89)*	*(5-12)*	*(54-69)*	*(44-59)*	*(96-99)*	
Pills	43%	43%	26%	28%	26%	**v220b**
95% CI	*(37-50)*	*(34-51)*	*(20-33)*	*(22-34)*	*(22-31)*	
Intrauterine device	2%	4%	3%	4%	8%	**v220c**
95% CI	*((-1)-4)*	*(1-7)*	*(1-5)*	*(2-7)*	*(6-10)*	
Injectables	47%	70%	69%	61%	56%	**v220d**
95% CI	*(40-53)*	*(62-78)*	*(63-75)*	*(54-68)*	*(51-61)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Implants	1%	3%	1%	2%	1%	**v220e**
95% CI	*(0-2)*	*(1-6)*	*(0-1)*	*(1-3)*	*(0-2)*	
Emergency contraception	0%	4%	0.2%	0.1%	3%	**v220f**
95% CI		*(1-6)*	*(0-0.4)*	*(0-0.2)*	*(1-4)*	
Female sterilization	2%	1%	1%	1%	1%	**v220g**
95%CI	*(0-4)*	*(0-1)*	*(0-2)*	*(0-2)*	*(0-2)*	
Rhythm method	0%	0%	0.4%	0%	0.1%	**v220h**
95% CI			*(0-1)*		*(0-0.3)*	
Denominator (respondents who ever used a contraceptives)	326	276	353	388	401	

Table A16. Current use of contraceptives other than condoms

	YGN	MDY	MYA	PTN	PYY	Variable name
Currently using	85%	58%	57%	72%	66%	**v221**
95% CI	*(80-90)*	*(50-67)*	*(50-64)*	*(65-78)*	*(62-70)*	
Denominator (respondents who used contraceptive methods other than female sterilization)	320	272	349	386	397	
Birth control pills	47%	25%	23%	22%	24%	**v222a**
95% CI	*(39-54)*	*(15-35)*	*(16-30)*	*(16-28)*	*(19-29)*	
Intrauterine device	2%	3%	5%	9%	7%	**v222b**
95% CI	*((-7)-10)*	*(0-6)*	*(2-8)*	*(2-16)*	*(4-10)*	
Injectables	50%	71%	73%	66%	64%	**v222c**
95% CI	*(43-57)*	*(61-81)*	*(66-81)*	*(58-75)*	*(58-70)*	
Implants	1%	4%	1%	3%	1%	**v222d**
95% CI	*(0-3)*	*((-1)-9)*	*(0-2)*	*(2-5)*	*(0-3)*	
Emergency contraception	0%	1%	0%	0.1%	2%	**v222e**
95% CI		*((-1)-3)*		*(0-0.3)*	*(0-5)*	
Rhythm method	0%	0%	0%	0%	2%	**v222g**

	YGN	MDY	MYA	PTN	PYY	Variable name
95%CI					*(0-4)*	
Denominator (respondents currently using contraceptive methods other than condom)	271	159	202	300	267	

Table A17.Reasons for using other contraceptive other than condom (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
More reliable	95%	96%	74%	45%	61%	**v223a**
95% CI	*(91-98)*	*(89-102)*	*(64-83)*	*(36-55)*	*(55-68)*	
More convenient	2%	4%	22%	45%	23%	**v223b**
95% CI	*(0-4)*	*((-2)-9)*	*(12-32)*	*(36-54)*	*(18-27)*	
Cheaper	0.2%	0%	6%	10%	28%	**v223c**
95% CI	*(0-1)*		*(2-9)*	*(4-15)*	*(23-33)*	
Other	3%	1%	0%	0%	0%	**v223d**
95% CI	*(0-5)*	*(0-1)*				
Denominator (respondents who were sterilized or were currently using contraceptive methods other than condom)	277	163	206	302	271	

Table A18. Experience with non-client male sex partners

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever had	97%	87%	89%	85%	72%	**v224**
95% CI	*(95-100)*	*(82-92)*	*(86-93)*	*(79-90)*	*(68-77)*	
Denominator (all)	399	381	396	401	419	
Ever had regular sex partner	99%	100%	100%	93%		**v225a**
95% CI	*(98-100)*	*(99-100)*		*(89-98)*		
Ever had casual sex partner	7%	5%	7%	12%		**v225b**
95% CI	*(4-9)*	*(2-7)*	*(4-10)*	*(7-18)*		
Denominator (respondents who ever had non-client partners)	389	323	356	346	Can't run	

B. REGULAR (NON-PAYING) MALE PARTNER

Table B1. Regular partners

	YGN	MDY	MYA	PTN	PYY	Variable name
Currently has regular partner	72%	73%	68%	70%	48%	**v301all**
95% CI	*(66-78)*	*(67-79)*	*(62-74)*	*(63-78)*	*(43-53)*	
Number of regular male partners in the last 12months						
Mean	4	7	1	1	1	**v302all**
Median	1	1	1	1	1	
25th-75th %tile	*(0-3)*	*(1-4)*	*(1-1)*	*(0-2)*	*(0-1)*	
Denominator (all)	399	381	396	401	419	

Table B2. Sexual activity with regular partners in the last one month

	YGN	MDY	MYA	PTN	PYY	Variable name
Had sex with regular partner in the last one month	65%	71%	63%	67%	53%	**v303all**
95% CI	*(59-71)*	*(65-77)*	*(57-69)*	*(60-75)*	*(48-58)*	
Number of sex acts with regular partners in the last one month						
Mean	7	14	6	6	3	**v304all**
Median	4	5	3	4	2	
25th-75th %tile	*(0-10)*	*(0-20)*	*(0-10)*	*(0-7)*	*(0-3)*	
Denominator (all)	399	381	396	401	419	

Table B3. Condom use with regular partners

Consistent condom use during sex with regular partners in the last month						
	YGN	MDY	MYA	PTN	PYY	Variable name
Never	19%	32%	53%	49%		**v305recod**
95% CI	*(12-25)*	*(23-41)*	*(43-62)*	*(39-59)*		
Sometimes	*12%*	*42%*	*32%*	37%		
95% CI	*(7-17)*	*(33-52)*	*(24-40)*	*(27-47)*		
Always	69%	26%	15%	*14%*		
95% CI	*(63-76)*	*(17-34)*	*(8-22)*	*(6-22)*		

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

Condom use at last anal sex	76%	50%	24%	33%		v3061mo
95% CI	*(70-82)*	*(41-59)*	*(15-32)*	*(22-43)*		
Denominator (respondents who had sex with a regular male partner in the last month)	262	266	247	290	Can't run	

Condom use at last sex

Condom use at last sex	65%	45%	22%	31%		v306
95% CI	*(60-71)*	*(37-53)*	*(16-27)*	*(22-39)*		
Denominator (respondents who ever had regular partner)	384	321	355	325	Can't run	

Table B4. Condom use decision maker during last sex with regular male partner

	YGN	MDY	MYA	PTN	PYY	Variable name
Self	28%		24%	72%		v307
95% CI	*(20-36)*		*(12-34)*	*(54-89)*		
Partner	*4%*		*26%*	*3%*		
95% CI	*(0-8)*		*(14-40)*	*((-1)-6)*		
Joint decision	68%		51%	25%		
95% CI	*(59-77)*		*(35-65)*	*(8-43)*		
Denominator (respondents who used condom at last sex with regular partner)	248	Can't run	80	93	Can't run	

Table B5. Reasons for not using condom at last sex with regular partner (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
Not easily available		1%	3%	1%		v308a
95% CI		*(0-2)*	*(1-4)*	*(0-1)*		
Expensive		0%	0%	0%		v308b
95% CI						

	YGN	MDY	MYA	PTN	PYY	Variable name
Using other contraception		1%	11%	0%		**v308c**
95% CI		*(0-2)*	*(5-17)*			
Was under influence of alcohol/drug		0%	0.3%	0.2%		**v308d**
95% CI			*(0.3-0.4)*	*(0-0.4)*		
Regular partner does not like		22%	9%	7%		**v308e**
95% CI		*(14-30)*	*(5-14)*	*(2-11)*		
I do not like it		1%	5%	0.4%		**v308f**
95% CI		*(0-3)*	*(3-7)*	*(0-1)*		
Both do not like it		29%	15%	66%		**v308g**
95% CI		*(18-39)*	*(8-23)*	*(57-76)*		
Do not think it is necessary		52%	36%	26%		**v308h**
95% CI		*(42-61)*	*(28-44)*	*(17-35)*		
Do not think of it/forgot		2%	4%	0%		**v308i**
95% CI		(1-3)	(2-7)			
I know this partner well		29%	30%	1%		**v308j**
95% CI		*(20-38)*	*(23-37)*	*(0-1)*		
Denominator (respondents who did not use condom at last sex with regular partner)	Can't run	178	274	232	Can't run	

C. CASUAL MALE PARTNER

Table C1. Casual (non-paying) partner

	YGN	MDY	MYA	PTN	PYY	Variable name
Currently has casual partners	1%	3%	2%	10%	6%	**v401all**
95% CI	*(0-2)*	*(1-6)*	*(1-3)*	*(5-15)*	*(4-8)*	
Denominator(all)	399	381	396	401	419	
Number of casual male partners in the last 12 months						
Mean	3	4	5	3	18	**v402**
Median	2	2	2	2	2	
25th-75th %tile	*(1-3)*	*(1-5)*	*(1-4)*	*(1-3)*	*(1-3)*	
Denominator (respondents who ever had casual partners)	31	19	28	39	49	

Table C2. Sexual activity with casual partner in the last one month

	YGN	MDY	MYA	PTN	PYY	Variable name
Had sex with casual partners in the last one month	3%	3%	3%	9%	8%	**v403all**
95% CI	*(1-5)*	*(1-6)*	*(2-5)*	*(5-14)*	*(5-11)*	
Denominator (all)	399	381	396	401	419	
Sex acts with casual partner in the last one month						
Mean	5	10	6	3	5	**v404**
Median	4	10	3	2	3	
25th-75th %tile	*(2-6)*	*(9-10)*	*(2-10)*	*(2-2)*	*(2-7)*	
Denominator (respondents who had casual partner in the last one month)	13	16	13	34	24	

Table C3. Condom use with casual partners

Consistent condom use during sex with casual partners in the last month

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	10%	14%	27%			**v405recod**
95% CI	*((-23)-43)*	*(4-23)*	*(4-50)*			
Sometimes	*43%*	*66%*	*59%*			
95% CI	*(2-83)*	*(47-85)*	*(32-85)*			
Always	47%	20%	14%			
95% CI	*(10-85)*	*(4-36)*	*(1-27)*			

Condom use at last sex among those who had sex with casual partners in the last one month

Condom use at last sex	64%	42%	49%			**v4061mo**
95% CI	*(30-99)*	*(13-71)*	*(17-81)*			
Denominator (respondents who had sex with casual partners in the last month)	13	16	14	Can't run	Can't run	

Condom use at last sex

Condom use at last sex	73%		55%			**v406**
95% CI	*(35-112)*		*(25-83)*			
Denominator (respondents who ever had casual partners)	31	Can't run	28	Can't	Can't run	

Table C4. Condom use decision maker of last sex with casual male partner

	YGN	MDY	MYA	PTN	PYY	Variable name
Self	56%		53%			**v407**
95% CI	*(40-72)*		*(40-72)*			
Partner	*33%*		*6%*			
95% CI	*(17-49)*		*(3-8)*			
Joint decision	11%		40%			

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*(11-11)*		*(22-54)*			
Denominator (respondents who used condom at last sex with casual partner)	24	Can't run	18	Can't run	Can't run	

Table C5. Reasons for not using condom at last anal sex with casual non-paying male partner (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
Not easily available	33%		27%	5%		**v408a**
95% CI	*((-5)-70)*		*((-7)-68)*	*((-6)-17)*		
Was under influence of alcohol/drug	7%		0%	0%		**v408d**
95% CI	*(0-14)*					
Sex partner does not like	31%		7%	28%	100%	**v408e**
95% CI	*(0-62)*		*((-6)-18)*	*(5-51)*		
I do not like it	11%		10%	0%		**v408f**
95% CI	*((-14)-35)*		*(0-17)*			
Both do not like it			0%	67%		**v408g**
95% CI				*(45-89)*		
Do not think it is necessary			9%	0%		**v408h**
95% CI			*(0-14)*			
Do not think of it/forgot	19%		37%	0%		**v408i**
95% CI	((-6)-45)		(0-78)			
I know this partner well	0%		11%	0%		**v408j**
95% CI			*((-1)-20)*			
Denominator (respondents who did not use condom at last sex with casual partner)	7	Can't run	10	19	4	

D. GENERAL SEX WORK HISTORY

Table D1. First sexual experience and sex work

	YGN	MDY	MYA	PTN	PYY	Variable name
Age at first sex Mean	19	18	19	19	20	**v501**
Median	18	18	18	18	19	
25th-75th %tile	*(17-20)*	*(16-20)*	*(17-20)*	*(16-20)*	*(17-22)*	
Age at first sex work Mean	23	23	24	21	23	**v502**
Median	22	21	22	20	23	
25th-75th %tile	*(18-27)*	*(19-25)*	*(19-28)*	*(18-24)*	*(19-27)*	
Denominator(all)	399	381	394	401	419	

Table D2. Duration of sexual activity and sex work (years)

	YGN	MDY	MYA	PTN	PYY	Variable name
Duration of sexual activity Mean	13	10	11	10	11	**dursxact**
Median	12	9	10	8	10	
25th-75th %tile	*(6-19)*	*(5-15)*	*(4-17)*	*(5-14)*	*(5-15)*	
Duration of sex work Mean	8	6	6	7	7	**dursxwrk**
Median	6	4	5	6	6	
25th-75th %tile	*(3-12)*	*(2-9)*	*(2-10)*	*(3-11)*	*(3-11)*	
Being a sex worker ≤ 1year	14%	17%	19%	8%	12%	**sxwrk1yr**
95% CI	*(10-19)*	*(11-22)*	*(15-23)*	*(3-13)*	*(9-15)*	
Denominator(all)	399	381	394	401	419	

Table D3. Was forced or coerced to do sex work the first time

	YGN	MDY	MYA	PTN	PYY	Variable name
Forced or coerced	14%	32%	26%	31%	18%	**v503**
95% CI	*(10-19)*	*(25-38)*	*(21-31)*	*(24-37)*	*(14-21)*	
Denominator(all)	398	381	395	401	419	

Table D4. Working weeks/days in a month

Average number of weeks sold sex in one month over the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Mean	3	3	3	4	3	**v504**
Median	4	3	3	4	3	
25th-75th %tile	*(3-4)*	*(2-4)*	*(2-4)*	*(4-4)*	*(3-4)*	

Average number of days sold sex in a week over the last 12 months

Mean	4	4	3	5	5	**v505**
Median	4	4	3	5	5	
25th-75th %tile	*(3-5)*	*(3-5)*	*(2-3)*	*(5-7)*	*(4-5)*	

Average number of days sold sex in a month over the last 12 months

Mean	14	13	8	20	16	**wrkdyinmo**
Median	12	12	6	20	15	
25th-75th %tile	*(9-20)*	*(6-20)*	*(4-9)*	*(15-24)*	*(12-20)*	
Denominator (all)	397	381	392	401	419	

Table D5. Sex work in other towns

Exchanged sex for cash or kind in other town in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Did sex work in other towns	13%	30%	18%	59%	34%	**v506**
95% CI	*(9-17)*	*(23-37)*	*(13-23)*	*(51-66)*	*(29-38)*	

Number of towns respondent conducted sex work in the last 12 months

Mean	1	1	1	2	1	**numsxwrkpl**
Median	1	1	1	2	1	
25th-75th %tile	*(1-1)*	*(1-2)*	*(1-1)*	*(1-3)*	*(1-2)*	
1 town	87%	70%	82%	41%	66%	**sxwrkplcat**
95% CI	*(83-91)*	*(63-77)*	*(77-87)*	*(34-49)*	*(62-71)*	
2-3 towns	13%	28%	16%	50%	31%	
95% CI	*(9-17)*	*(22-35)*	*(11-21)*	*(43-58)*	*(26-35)*	
4-6 towns	0.2%	2%	2%	9%	3%	
95% CI	*(0-1)*	*((-1)-4)*	*(0-3)*	*(4-13)*	*(1-5)*	
≥7 towns	0%	0%	0%	0%	0%	
95% CI						
Denominator (all)	399	381	396	401	419	

Table D6. Type of sex work by place of solicitation

	YGN	MDY	MYA	PTN	PYY	Variable name
Visible	49%	51%	30%	23%	31%	**sxwrktyp**
95% CI	*(43-56)*	*(42-59)*	*(25-36)*	*(17-30)*	*(26-36)*	
Semi visible	28%	38%	36%	64%	39%	
95% CI	(22-34)	(31-46)	(30-43)	*(57-71)*	*(34-43)*	
Hidden	23%	11%	33%	*13%*	*30%*	
95% CI	*(17-28)*	*(6-16)*	*(28-39)*	*(7-18)*	*(26-35)*	
Denominator (all)	399	381	394	401	419	

Visible = Public areas (parks, streets, railway station, etc.); Semi-visible = Entertainment establishments (brothels, massage parlor, club, restaurant, hotel, etc.); Hidden = private house, through friend/broker, phone, internet

Table D7. Places where respondents had sex with clients

	YGN	MDY	MYA	PTN	PYY	Variable name
Brothel	3%	5%	7%	17%	12%	**v509recod**
95% CI	*(1-5)*	*(2-8)*	*(3-10)*	*(10-24)*	*(9-16)*	
Hotel/Guest house	93%	74%	37%	60%	79%	
95% CI	*(91-96)*	*(67-81)*	*(31-43)*	*(52-67)*	*(75-84)*	
Massage/Karaoke/Day/Night club	1%	1%	2%	16%	1%	
95% CI	*(0-3)*	*(0-2)*	*(1-3)*	*(12-20)*	*(0-2)*	
Own or friend or client flat/house	2%	7%	41%	5%	3%	
95% CI	*(1-4)*	*(3-10)*	*(35-48)*	*(3-8)*	*(1-4)*	
Special places*	0%	13%	13%	2%	5%	
95% CI		*(6-20)*	*(9-17)*	*(0-3)*	*(2-7)*	
Denominator (all)	399	381	389	401	419	
*depends on site: MDY--coffee shops with private room; MYA, PTN and PYY--shops,bushes, vans, public places						

Table D8. Number of paying clients

# of clients in the last one month

	YGN	MDY	MYA	PTN	PYY	Variable name
Mean	16	24	3	55	37	**v510**
Median	15	5	2	60	25	
25th-75th %tile	(8-20)	(2-20)	(1-4)	(20-80)	(20-41)	
Denominator (all)	399	381	390	401	407	

# of clients on last working day

Mean	2	2	2	4	3	**v513**
Median	2	2	1	3	3	
25th-75th %tile	(1-2)	(1-3)	(1-2)	(2-5)	(2-4)	
Denominator (all)	399	381	390	400	419	

# of clients per month (calculated from last working day * working days in a month)

	YGN	MDY	MYA	PTN	PYY	Variable name
Mean	29	36	19	81	55	**clpermo**
Median	24	20	6	60	45	
25th-75th %tile	(12-40)	(8-45)	(4-19)	(40-100)	(24-72)	
Denominator (all)	397	381	387	400	419	

Table D9. Number of sex acts with clients in the last one month

	YGN	MDY	MYA	PTN	PYY	Variable name
Mean	20	31	11	67	38	**v511**
Median	18	15	6	70	25	
25th-75th %tile	(10-25)	(8-30)	(4-12)	(30-90)	(19-40)	
Denominator (respondents who had clients in the last month)	398	376	318	401	258	

Table D10. Condom use with clients

Consistent condom use during sex with clients in the last month

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	1%	9%	32%	0.5%	1%	**v512recod**
95% CI	*(0-2)*	*(5-12)*	*(24-40)*	*(0-1)*	*(0-2)*	
Sometimes	*18%*	*56%*	*24%*	*54%*	*14%*	
95% CI	(13-23)	(48-63)	(18-31)	*(47-62)*	*(10-17)*	
Always	81%	36%	44%	45%	85%	
95% CI	*(77-86)*	*(29-43)*	*(35-52)*	*(37-53)*	*(82-89)*	
Denominator (respondents who had clients in the last month)	398	376	332	401	417	

Condom use at last sex with client

Condom use at last sex	95%	79%	54%	89%	93%	**v514**
95% CI	*(92-98)*	*(74-84)*	*(46-62)*	*(84-93)*	*(91-96)*	
Denominator (all)	399	381	396	401	419	

Table D11. Condom use decision maker of last sex with client

	YGN	MDY	MYA	PTN	PYY	Variable name
Self	47%	88%	38%	90%	70%	v515
95% CI	*(40-54)*	*(84-92)*	*(30-46)*	*(86-94)*	*(65-74)*	
Partner	*7%*	*2%*	*22%*	*3%*	*8%*	
95% CI	*(3-12)*	*(1-4)*	*(16-28)*	*(0-7)*	*(6-11)*	
Joint decision	45%	9%	*40%*	7%	22%	
95% CI	*(39-52)*	*(5-13)*	*(32-48)*	*(4-10)*	*(18-27)*	
Denominator (respondents who used condom at last sex with clients)	381	294	230	350	392	

Table D12. Reasons of not using condom at last sex with clients (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
Not easily available		3%	5%	2%	4%	v516a
95% CI		*(0-7)*	*(2-9)*	*((-2)-5)*	*(2-6)*	
Using other contraception		1%	17%	0%	6%	v516c
95% CI		*(1-1)*	*(8-26)*		*(4-7)*	
Was under influence of alcohol/drug		0%	1%	1%	0%	v516d
95% CI			*(0-3)*	*(1-1)*		
Sex partner doesn't like		28%	14%	19%	27%	v516e
95% CI		*(8-49)*	*(8-21)*	*(5-33)*	*(17-33)*	
I don't like it		7%	7%	0%	0%	v516f
95% CI		*((-10)-24)*	*(1-13)*			
Both don't like it		47%	7%	1%	0%	v516g
95% CI		*(25-69)*	*(1-11)*	*((-2)-3)*		
Don't think it is necessary		9%	8%	7%	0%	v516h
95% CI		*(0-18)*	*(4-11)*	*(2-11)*		
Don't think of it/forgot		3%	25%	1%	17%	v516i
95% CI		(1-4)	(16-34)	((-2)-3)	((-12)-46)	
I know this client well		20%	19%	1%	18%	v516j

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI		(10-30)	(9-30)	(0-1)	((-11)-47)	
Client is paying more without		4%	10%	73%	38%	**v516k**
95% CI		((-2)-9)	(4-17)	(42-104)	(20-58)	
Other		2%	0.3%	0%	0%	**v516l**
95% CI		*(2-2)*	*(0-1)*			
Denominator (respondents who did not use condom at last sex with clients)	Can't run	87	163	51	27	

Table D13. Amount of money received from client at last sex (kyats)

Money received from client at last sex

	YGN	MDY	MYA	PTN	PYY	Variable name
Mean	13,164	40,602	26,680	17,829	16,266	**v517kyats**
Median	10,000	30,000	15,000	10,000	12,000	
25th-75th %tile	*(5,000-15,000)*	*(15,000-50,000)*	*(7,000-30,000)*	*(5,000-20,000)*	*(8,000-20,000)*	
Denominator (all)	399	376	279	401	419	

Money kept by respondents at last sex with client

Mean	12,368	38,418	24,135	16,637	14,492	**v518**
Median	10,000	24,000	15,000	10,000	10,000	
25th-75th %tile	*(5,000-15,000)*	*(15,000-50,000)*	*(7,000-30,000)*	*(5,000-20,000)*	*(6,000-20,000)*	
Denominator (respondents who received money from client)	399	376	285	401	419	

% of money from clients kept by respondents at last sex

Mean	0.94	0.94	0.92	0.89	0.89	**pctswkpt**
Median	1	1	1	1	1	
25th-75th %tile	*(1-1)*	*(1-1)*	*(1-1)*	*(1-1)*	*(0.87-1)*	
Denominator (respondents who received money from client)	399	376	278	401	419	

Table D14. Decision maker of amount of money or gift for exchanging sex

	YGN	MDY	MYA	PTN	PYY	Variable name
Broker/manager/pimp	16%	11%	16%	19%	24%	**v519**
95% CI	*(12-21)*	*(6-15)*	*(11-20)*	*(12-26)*	*(19-29)*	
Respondent	*74%*	*38%*	*21%*	*25%*	*55%*	
95% CI	*(69-80)*	*(31-46)*	*(16-26)*	*(19-32)*	*(50-60)*	
Client	9%	51%	*63%*	*55%*	21%	
95% CI	*(6-13)*	*(44-58)*	*(57-70)*	*(47-63)*	*(17-25)*	
Denominator (all)	399	381	391	401	419	

Table D15. Experience with client who refused to give money or gift after having sex

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever had client refuse to pay	10%	29%	11%	38%	22%	**v520**
95% CI	*(6-14)*	*(22-37)*	*(7-15)*	*(30-46)*	*(18-26)*	
Denominator (all)	399	381	396	401	419	
Frequency that clients refused to give money after sex in the last 12 moths						
Always (every time)	0.1%	0%	0.1%	0%	0.3%	**v521all**
95% CI	*(0-0.3)*		*(0-0.3)*		*(0-1)*	
Most times	1%	4%	0.2%	4%	*5%*	
95% CI	*(0-3)*	*(2-6)*	*(0-0.5)*	*(2-7)*	*(3-7)*	
About half of the times	1%	1%	1%	2%	0%	
95% CI	*(0-2)*	*(0-2)*	*(0-1)*	*(0-3)*		
Occasionally	7%	24%	7%	32%	16%	
95% CI	*(4-10)*	*(16-31)*	*(4-10)*	*(24-40)*	*(13-20)*	
Never	90%	71%	92%	62%	79%	
95% CI	*(87-94)*	*(64-79)*	*(89-95)*	*(54-69)*	(75-83)	
Denominator (all)	399	381	396	401	419	

Table D16. Experience with anal sex in exchange of for money or gift

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever had anal sex with clients	1%	8%	11%	7%	11%	v522
95% CI	*(0-3)*	*(5-12)*	*(7-15)*	*(5-10)*	*(8-13)*	
Had anal sex with clients in the last one month	0.3%	5%	6%	7%	8%	v523all
95% CI	*(0-1)*	*(3-7)*	*(3-10)*	*(4-9)*	*(5-10)*	
Denominator (all)	399	381	396	401	419	

Number of paying clients you had anal sex in the last one month

Mean	2	4	3	4	4	v524
Median	2	3	3	3	2	
25th-75th %tile	*(2-2)*	*(1-5)*	*(2-3)*	*(1-4)*	*(2-6)*	
Denominator (respondents who anal sex with clients in the last one month)	1	22	21	32	31	

Table D17. Condom use last time anal sex with paying clients

	YGN	MDY	MYA	PTN	PYY	Variable name
Condom use at last anal sex	69%		67%	87%	89%	v525
95% CI	*(28-109)*		*(52-84)*	*(78-97)*	*(83-97)*	
Denominator (respondents who ever had anal sex with client)	5	Can't run	38	37	42	

Table D18. Condom use decision maker at last anal sex with client

	YGN	MDY	MYA	PTN	PYY	Variable name
Self	47%		28%	89%	67%	v526
95% CI	(2-91)		((-7)-60)	*(80-99)*	*(53-79)*	
Partner	38%		44%	*0%*	*10%*	
95% CI	*((-6)-83)*		*(10-77)*		*((-2)-24)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Joint decision	15%		*27%*	11%	23%	
95% CI	*((-13)-43)*		*(30-30)*	*(1-20)*	*(23-23)*	
Denominator (respondents who used condom at last anal sex with clients)	3	Can't run	24	31	36	

Table D19. Lubricant use with a client at last anal sex

	YGN	MDY	MYA	PTN	PYY	Variable name
Used a lubricant	42%		26%	81%	76%	**v528**
95% CI	*((-1)-84)*		*(10-40)*	*(76-86)*	(65-86)	
Denominator (respondents who ever had experience of anal sex with client)	5	Can't run	38	37	42	

E. CONDOM AND LUBRICANTS

Table E1. Condoms sources and accessibility

	YGN	MDY	MYA	PTN	PYY	Variable name
Knows a place to get condoms	98%	91%	69%	99%	99%	**v601**
95% CI	*(97-100)*	*(85-96)*	*(63-75)*	*(97-100)*	*(98-100)*	
Denominator (all)	399	381	396	401	419	
Places known as a source of condoms (multiple responses allowed)						
Pharmacy	19%	47%	32%	14%	11%	**v602a**
95% CI	*(14-23)*	*(39-54)*	*(25-40)*	*(9-18)*	*(8-13)*	
Store/shop	4%	9%	26%	10%	4%	**v602b**
95% CI	*(1-6)*	*(5-13)*	*(18-36)*	*(5-15)*	*(3-6)*	
Broker/Manager/pimp	6%	3%	7%	8%	6%	**v602c**
95% CI	*(3-9)*	*(1-5)*	*(3-11)*	*(4-12)*	*(4-9)*	
Drop-In Center	61%	45%	45%	83%	92%	**v602d**
95% CI	*(53-68)*	*(38-53)*	*(38-53)*	*(77-89)*	*(89-95)*	
Betel Shop	9%	3%	11%	15%	12%	**v602e**
95% CI	*(6-12)*	*(1-5)*	*(7-15)*	*(10-20)*	*(9-15)*	
Hospital/Clinic/STD team	13%	2%	13%	27%	2%	**v602f**
95% CI	*(9-17)*	*(0-4)*	*(9-18)*	*(19-34)*	*(0-4)*	
Karaoke/restaurant	0.3%	0.1%	3%	3%	1%	**v602g**
95% CI	*(0-1)*	*(0-.2)*	*((-1)-7)*	*(0-6)*	*(0-2)*	
Inn/Hotel/Motel/Guesthouse	38%	13%	6%	8%	6%	**v602h**
95% CI	*(32-45)*	*(9-17)*	*(1-12)*	*(5-11)*	*(3-8)*	
Outreach worker/Health educator/ BHS	13%	67%	10%	51%	9%	**v602i**
95% CI	*(8-17)*	*(59-74)*	*(6-14)*	*(43-58)*	*(6-13)*	
Peer/Friend	4%	11%	5%	15%	4%	**v602j**
95% CI	*(1-6)*	*(6-16)*	*(3-8)*	*(9-20)*	*(2-6)*	
Other	0.3%	0%	0%	0%	0%	

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	(0.2-0.3)					
Denominator (respondents who know a place to get condoms)	393	352	273	395	415	

Most common place to get condoms in the last 12 months

Client	26%	15%	41%	1%	4%	**v603**
95% CI	*(19-33)*	*(8-21)*	*(33-50)*	*(0-1)*	*(2-5)*	
NGO	*58%*	*70%*	*43%*	77%	89%	
95% CI	(50-65)	*(62-78)*	*(35-51)*	*(70-83)*	*(86-92)*	
Pimp/Manager	10%	9%	10%	*5%*	*2%*	
95% CI	*(7-13)*	*(5-14)*	*(6-15)*	*(2-8)*	*(1-4)*	
self bought	*6%*	6%	5%	18%	5%	
95% CI	*(3-10)*	*(3-9)*	*(3-8)*	*(12-24)*	*(3-7)*	
Denominator (all)	398	368	298	401	419	

Frequency that a condom is available whenever needed

Never	0.2%	2%	20%	0%	0%	**v604recod**
95% CI	*(0-0.4)*	*(1-3)*	*(14-26)*			
Sometimes	*12%*	*61%*	*27%*	11%	23%	
95% CI	*(8-16)*	*(54-68)*	*(22-33)*	*(7-15)*	*(19-27)*	
Always	88%	37%	53%	*89%*	*77%*	
95% CI	*(84-92)*	*(30-44)*	*(46-60)*	*(85-93)*	*(73-81)*	
Denominator (all)	399	371	354	401	419	

Table E2. Female condom

	YGN	MDY	MYA	PTN	PYY	Variable name
ever heard of a female condom	86%	77%	65%	89%	97%	**v605**
95%CI	*(82-91)*	*(70-84)*	*(58-71)*	*(85-94)*	*(95-98)*	
ever used of a female condom	30%	24%	11%	25%	48%	**v606all**
95%CI	*(24-36)*	*(18-30)*	*(8-15)*	*(20-31)*	*(43-52)*	
Denominator (all)	399	381	396	401	419	

Table E3. Usually carries condoms

	YGN	MDY	MYA	PTN	PYY	Variable name
Carries condoms	86%	68%	33%	91%	92%	v607
95% CI	*(81-90)*	*(60-75)*	*(27-39)*	*(88-95)*	*(90-95)*	
Denominator (all)	399	381	396	401	419	
Reasons of not carrying condom (multiple responses allowed)						
I don't use condom		23%	50%			v608a
95% CI		*(14-32)*	*(41-60)*			
Available at work place		30%	15%			v608b
95% CI		*(15-44)*	*(9-21)*			
Clients bring their own condoms		33%	34%			v608c
95% CI		*(22-44)*	*(27-42)*			
Don't think about it/forget		0%	2%			v608d
95% CI			*(1-4)*			
Afraid of being caught carrying condoms		11%	5%			v608e
95% CI		*(5-18)*	*((-2)-12)*			
Other		5%	2%			v608f
95% CI		*(1-10)*	*(0-4)*			
Denominator (respondents who don't usually carry condom)	Can't run	123	263	Can't run	Can't run	

Table E4. Condom breakage experience

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever had condom break	30%	43%	21%	53%	49%	609
95% CI	*(24-36)*	*(36-51)*	*(16-27)*	*(45-60)*	*(44-53)*	
Denominator (all)	399	381	396	401	419	

Reasons for condom breakage

Poor quality of condom	4%	22%	13%	4%	7%	v610a
95% CI	*((-8)-16)*	*(12-32)*	*(1-25)*	*(2-7)*	*(3-11)*	
Expired condom	9%	14%	16%	7%	3%	v610b
95% CI	*(3-15)*	*(6-22)*	*(5-29)*	*(2-11)*	*(0-6)*	
Condom wrong size	0%	18%	5%	4%	4%	v610c
95% CI		*(11-25)*	*(1-9)*	*(0-9)*	*(1-8)*	
User error	7%	41%	13%	31%	18%	v610d
95% CI	*(2-11)*	*(28-53)*	*(5-20)*	*(20-41)*	*(13-23)*	
No lubricant	7%	18%	1%	6%	4%	v610e
95% CI	*(3-12)*	*(12-25)*	*((-2)-4)*	*(0-11)*	*(1-7)*	
Wrong type of lubricant	1%	2%	0%	0.2%	1%	v610f
95% CI	*(1-1)*	*((-2)-5)*		*(0-1)*	*(1-1)*	
Violence	31%	68%	52%	68%	60%	v610g
95% CI	*(20-41)*	*(57-79)*	*(38-67)*	*(59-78)*	*(52-69)*	
Used two condoms at same time	2%	0%	1%	2%	3%	v610h
95% CI	*((-1)-5)*		*(0-1)*	*(0-4)*	*(0-6)*	
Sex lasted too long	8%	34%	27%	56%	15%	v610i
95% CI	*(2-14)*	*(18-49)*	*(14-41)*	*(45-67)*	*(8-21)*	
Large or disfigured penis	42%	9%	7%	11%	14%	v610j
95% CI	*(32-52)*	*(3-15)*	*(2-11)*	*(4-8)*	*(10-18)*	
Denominator (respondents who ever had condom break)	115	157	78	206	196	

Condom breakage experience in the last one month

Had condom break in the last month	17%	19%	7%	21%	17%	v611all
95% CI	*(12-21)*	*(13-24)*	*(3-10)*	*(15-26)*	*(13-21)*	
Denominator (all)	399	381	396	401	419	

Condom breakage experience at last sex

Had condom break at last sex	12%	4%	3%	4%	9%	**v612all**
95% CI	*(8-16)*	*(2-7)*	*(1-6)*	*(2-6)*	*(6-12)*	
Denominator (all)	399	381	396	401	419	

Table E5. Lubricant usage

	YGN	MDY	MYA	PTN	PYY	Variable name
Lubricant use at last sex	32%	31%	11%	37%	39%	**v613**
95% CI	*(27-38)*	*(23-39)*	*(6-16)*	*(30-44)*	*(34-44)*	
Denominator (all)	399	381	396	401	419	

Types of lubricant used

Glycerin	24%	0%	0%	1%	1%	**v614a**
95% CI	*(15-33)*			*(1-2)*	*(0-2)*	
Saliva	0%	0%	9%	5%	0.5%	**v614b**
95% CI			*(7-12)*	*((-5)-14)*	*(0-1)*	
Gel (ahphaw gel)	74%	100%	83%	94%	95%	**v614c**
95% CI	*(65-83)*		*(74-92)*	*(84-104)*	*(93-97)*	
Body lotion/cosmetic oils	2%	0%	8%	0.2%	3%	**v614d**
95% CI	*((-1)-4)*		*(0-15)*	*(0-0.3)*	*(2-5)*	
Denominator (respondents who used lubricant at last sex)	133	122	37	161	158	

F. SEXUALLY TRANSMITTED INFECTIONS

Table F1. Knowledge about STIs

	YGN	MDY	MYA	PTN	PYY	Variable name
Aware of STDs	94%	87%	79%	97%	98%	**v701**
95% CI	*(91-97)*	*(81-94)*	*(74-84)*	*(94-99)*	*(97-100)*	
Denominator (all)						
STI symptoms in women described by respondents (multiple responses allowed)						
Abdominal pain	1%	7%	4%	6%	2%	**v702a**
95% CI	*(0-2)*	*(3-10)*	*(2-7)*	*(4-8)*	*(1-4)*	
White or foul-smelling discharge	88%	81%	34%	97%	88%	**v702b**
95% CI	*(84-91)*	*(75-86)*	*(24-43)*	*(93-101)*	*(84-91)*	
Itchiness around gentitalia	38%	68%	26%	73%	61%	**v702c**
95% CI	*(32-44)*	*(60-75)*	*(18-33)*	*(66-79)*	*(56-66)*	
Burning/painful urination	53%	15%	6%	14%	21%	**v702d**
95% CI	*(47-58)*	*(10-20)*	*(2-10)*	*(10-19)*	*(16-25)*	
Pain during sex	4%	5%	5%	6%	7%	**v702e**
95% CI	*(2-7)*	*(3-8)*	*((-2)-12)*	*(2-11)*	*(5-10)*	
Genital ulcer	23%	47%	34%	39%	27%	**v702f**
95% CI	*(18-28)*	*(39-55)*	*(25-43)*	*(32-47)*	*(23-31)*	
Swelling in groin	2%	29%	27%	45%	28%	**v702g**
95% CI	*(0-4)*	*(22-37)*	*(18-36)*	*(37-53)*	*(24-33)*	
Infertility	0%	0%	9%	1%	2%	**v702h**
95% CI			*((-1)-19)*	*(0-2)*	*(0-3)*	
No symptoms mentioned	0%	0%	4%	0%	0%	**v702i**
95% CI			*(0-7)*			
Other	1%	24%	6%	0%	2%	**v702j**
95% CI	*(0-3)*	*(17-30)*	*(3-8)*		*(1-3)*	
Denominator (respondents who ever heard of STDs)	339	301	196	377	384	

STI symptoms in men described by respondents (multiple responses allowed)

Discharge from penis	81%	90%	42%	98%	80%	v703a
95% CI	*(76-86)*	*(87-94)*	*(29-55)*	*(97-100)*	*(76-85)*	
Bunning or painful urination	43%	45%	17%	43%	38%	v703b
95% CI	*(35-50)*	*(36-53)*	*(9-25)*	*(35-51)*	*(32-44)*	
Pain during sex	4%	5%	2%	19%	10%	v703c
95% CI	*(1-7)*	*(2-7)*	*(0-4)*	*(12-25)*	*(7-13)*	
Genital/anal ulcer	29%	33%	41%	44%	30%	v703d
95% CI	*(23-36)*	*(25-40)*	*(30-51)*	*(36-51)*	*(26-35)*	
Swelling in groin	2%	16%	21%	49%	26%	v703e
95% CI	*(0-3)*	*(10-23)*	*(13-30)*	*(41-57)*	*(21-30)*	
No symptoms mentioned	0.2%	0%	2%	0.3%	0%	v703f
95% CI	*(0-1)*		*(0-3)*	*(0-1)*		
Other	0.3%	5%	8%	0%	1%	v703g
95% CI	*(0-1)*	*(2-8)*	*(3-12)*		*(0-2)*	
Denominator (respondents who ever heard of STDs)	316	295	163	373	355	

Table F2. STI symptoms experienced in the past 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Had foul smelling discharge	6%	43%	37%	53%	31%	v704
95% CI	*(3-9)*	*(36-49)*	*(31-44)*	*(45-60)*	*(26-36)*	
Had genital ulcer	1%	10%	5%	7%	5%	v705
95% CI	*(0-3)*	*(5-14)*	*(2-8)*	*(4-11)*	*(3-7)*	
Had discharge or ulcer	7%	44%	38%	55%	33%	disulc
95% CI	*(4-10)*	*(38-51)*	*(31-44)*	*(48-63)*	*(29-38)*	
Denominator (all)	399	381	395	401	419	

Table F3. Treatment seeking behaviour

	YGN	MDY	MYA	PTN	PYY	Variable name
Sought treatment for discharge or ulcer	96%	63%	49%	83%	86%	**v706**
95% CI	*(92-100)*	*(50-75)*	*(39-59)*	*(74-90)*	*(80-92)*	
Denominator (respondents who had discharge or ulcer in the last 12 months)	29	168	142	230	131	

Respondents' choices for treatment (multiple responses allowed)

Self-medication	7%	9%	22%	11%	15%	**v707a**
95% CI	*(4-10)*	*((-1)-19)*	*(15-27)*	*(4-18)*	*(8-22)*	
Traditional medicine	0%	0.4%	0%	4%	0%	**v707b**
95% CI		*(0-1)*		*((-1)-8)*		
Treatment at AIDS/STD team	0%	0%	3%	3%	5%	**v707c**
95% CI			*(2-4)*	*(0-6)*	*(0-10)*	
Private hospital/clinic/GP	22%	18%	42%	23%	6%	**v707d**
95% CI	*(8-36)*	*(0-37)*	*(28-57)*	*(11-34)*	*((-12)-24)*	
Public hospital/clinic	4%	1%	8%	2%	1%	**v707e**
95% CI	*((-3)-12)*	*(0-3)*	*(0-16)*	*(0-3)*	*(1-1)*	
Clinics at NGOs	69%	73%	26%	61%	83%	**v707f**
95% CI	*(53-85)*	*(54-93)*	*(14-37)*	*(48-75)*	*(77-89)*	
Denominator (respondents who sought for treatment of STIs)	27	109	69	200	110	

Received correct treatment for STIs

Received correct STI treatment	91%	57%	38%	71%	76%	**corrstitrt**
95% CI	*(84-98)*	*(43-71)*	*(28-49)*	*(62-81)*	*(68-85)*	
Denominator (respondents who had discharge or ulcer in the last 12 months)	29	168	141	230	131	

Table F3. (cont.)

Duration of STI symptoms before seeking treatment

<= 7 days	99%	86%	70%	89%		**v708cat**
95% CI	*(99-100)*	*(75-97)*	*(47-92)*	*(82-95)*		
8 to 14 days	*1%*	*1%*	*8%*	*3%*		
95% CI	*(0-1)*	*(1-2)*	(6-11)	(0-7)		
>= 15 days	0%	1%	4%	0.1%		
95% CI		*((-1)-2)*	*((-1)-10)*	*(0-0.3)*		
>= 1 month	0%	12%	*18%*	8%		
95% CI		*(2-23)*	*((-1)-38)*	*(2-13)*		
Denominator (respondents who sought for treatment of STIs)	27	108	68	200	Can't run	

G. ALCOHOL AND DRUG USE

Table G1. Alcohol use

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever had alcohol drink	21%	58%	36%	83%	33%	**v801**
95% CI	*(15-26)*	*(50-66)*	*(30-43)*	*(77-88)*	*(28-37)*	
Had alcohol in the last 12 months	21%	58%	31%	80%	30%	**v802all**
95% CI	*(15-26)*	*(50-66)*	*(25-37)*	*(75-86)*	*(26-35)*	
Denominator (all)	399	381	396	401	419	

Frequency of drinking alcohol

Low (never or < once a month)	83%	54%	77%	23%	80%	**v803recodall**
95% CI	*(78-88)*	*(47-61)*	*(72-83)*	*(17-29)*	*(76-84)*	
Medium (1-10 times a month)	*17%*	*40%*	*21%*	*60%*	*17%*	
95% CI	*(12-22)*	*(33-47)*	*(15-26)*	*(53-67)*	*(13-21)*	
High (nearly daily or daily)	0%	6%	2%	16%	3%	
95% CI		*(3-9)*	*(1-3)*	*(11-21)*	*(1-4)*	
Denominator (all)	399	381	396	401	419	

	YGN	MDY	MYA	PTN	PYY	Variable name
Used alcohol to make sex worker easier in the last 12 months	14%	27%	12%	55%	18%	**v804all**
95% CI	*(10-19)*	*(21-33)*	*(8-16)*	*(48-63)*	*(14-21)*	
Denominator (all)	399	381	396	401	419	

Got drunk and had sex in the last 12 months	14%	30%	11%	54%	19%	**v805all**
95% CI	*(9-18)*	*(24-37)*	*(7-14)*	*(47-61)*	*(15-23)*	
Denominator (all)	399	381	396	401	419	

Consistent condom use under influence of alcohol in the last 12 months

Never	3%	16%	25%	1%		**v806recod**
95% CI	*(2-5)*	*(4-29)*	*(8-38)*	*(0-2)*		
Sometimes	*34%*	*65%*	*44%*	*67%*		
95% CI	(18-49)	*(49-81)*	*(25-65)*	*(59-75)*		
Always	63%	19%	31%	32%		
95% CI	*(48-79)*	*(8-29)*	*(8-56)*	*(25-39)*		
Denominator (respondents who had sex under the influence of alcohol in the last 12 months)	46	108	50	228	Can't run	

Table G4. Drug use for non-medical purposes

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever used drug	2%	5%	3%	14%	3%	**v807**
95% CI	*(0-4)*	*(2-8)*	*(0-5)*	*(9-20)*	*(1-5)*	
Denominator (all)	399	381	396	401	419	

Mode of drug use

Injecting method	0%	25%	0%	0%	0%	v808
95% CI		(3-47)				
Non-injecting methods	100%	73%	100%	100%	100.0%	
95% CI		(50-95)				
Both	0%	3%	0%	0%	0.0%	
95% CI		*((-1)-6)*				
Denominator (respondents who ever used drugs)	9	21	5	53	8	

Used drug to make sex worker easier in the last 12 months				69%		v811
95% CI				*(58-82)*		
Denominator (respondents who ever used drugs)	Can't run	Can't run	Can't run	53	Can't run	

Table G6. Had sex and condom usage under influence of drugs

Had sex under the influence of drugs in the last 12 months				75%		v812
95% CI				*(62-87)*		
Denominator (respondents who ever used drugs)	Can't run	Can't run	Can't run	53	Can't run	

Condom usage under influence of drugs in the last 12 months

Never				0%		v813recod
95% CI						
Sometimes				*88%*		
95% CI				*(83-92)*		
Always				*12%*		
95% CI				*(8-17)*		
Denominator (respondents who had sex under drug in the last 12 months)	Can't run	Can't run	Can't run	39	Can't run	

Table G7. Experience of receiving drug as payment of sex in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Exchange sex for drugs	1%	0.1%	3%	5%	1%	**v814**
95% CI	*(0-2)*	*(0-0.3)*	*((-1)-6)*	*(2-7)*	*(0-2)*	
Denominator(all)	398	381	396	401	419	

Table G8. Had injecting partner in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Had partner who injects drug	2%	17%	6%	6%	7%	**v815**
95% CI	*(1-3)*	*(12-22)*	*(2-10)*	*(2-10)*	*(4-10)*	
Denominator(all)	397	344	360	383	353	

H. KNOWLEDGE OF HIV/AIDS

Table H1. Awareness of HIV/AIDS

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever received information on HIV or AIDS	99%	96%	96%	100%	99%	**v901**
95% CI	*(98-100)*	*(93-98)*	*(94-98)*		*(99-100)*	
Denominator (all)	399	381	396	401	419	

Table H2. Sources of most information about HIV (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
Health provider(private/public)	75%	78%	44%	87%	93%	**v902a**
95% CI	*(70-80)*	*(70-85)*	*(36-52)*	*(81-93)*	*(91-95)*	
Teacher/school official	0%	2%	5%	0%	0.2%	**v902b**
95% CI		*(1-4)*	*(0-9)*		*(0-1)*	
Radio/TV/Magazine	8%	12%	11%	39%	13%	**v902c**
95% CI	*(5-11)*	*(7-17)*	*(7-14)*	*(31-47)*	*(10-16)*	
IEC materials	4%	9%	11%	18%	7%	**v902d**
95% CI	*(2-6)*	*(3-15)*	*(7-15)*	*(14-23)*	*(5-10)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Social media/internet	0%	0%	0.5%	2%	0%	**v902e**
95% CI			*(0-1)*	*((-1)-6)*		
Relatives/Friends	29%	39%	42%	41%	10%	**v902f**
95% CI	*(24-35)*	*(32-46)*	*(34-49)*	*(33-50)*	*(8-13)*	
Peers	8%	17%	22%	45%	11%	**v902g**
95% CI	*(6-11)*	*(12-21)*	*(16-28)*	*(37-52)*	*(8-13)*	
Other	0%	0%	0%	0%	0.2%	**v902h**
95% CI					*(0-0.4)*	
Denominator (respondents who ever received info on HIV/AIDS)	394	366	376	401	417	

Table H3. Knowledge of HIV prevention and treatment

Comprehensive knowledge (GARPR)

	YGN	MDY	MYA	PTN	PYY	Variable name
Has comprehensive knowledge	64%	66%	25%	53%	52%	**garprknow**
95% CI	*(58-70)*	*(59-72)*	*(19-30)*	*(45-61)*	*(47-57)*	
Denominator (all)	399	381	396	401	419	

Correct responses to specific knowledge questions included in GARPR definition

Can reduce the risk with one uninfected partner	85%	93%	62%	68%	78%	**v903**
95% CI	*(81-90)*	*(90-97)*	*(56-69)*	*(61-75)*	*(75-82)*	
Mosquitoes can't transmit HIV	89%	84%	57%	83%	78%	**v904**
95% CI	*(85-93)*	*(80-89)*	*(51-64)*	*(78-88)*	*(74-82)*	
Can reduce the risk by using condoms every time	97%	95%	93%	99%	96%	**v905**
95% CI	*(95-99)*	*(92-98)*	*(90-96)*	*(99-100)*	*(94-97)*	
Sharing food can't transmit HIV	96%	95%	93%	97%	95%	**v906**
95% CI	*(94-99)*	*(93-97)*	*(91-96)*	*(95-99)*	*(93-97)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
A health looking person can have HIV	96%	96%	86%	93%	89%	**v908**
95% CI	*(93-99)*	*(94-98)*	*(82-91)*	*(89-97)*	*(86-91)*	
Denominator (all)	396	375	392	401	418	

Correct response to HIV knowledge related question

Can get HIV by injecting with other's used needle	98%	99%	97%	100%	96%	**v907**
95% CI	*(97-99)*	*(98-100)*	*(95-98)*	*(99-100)*	*(93-98)*	
Denominator (all)	398	379	393	401	419	

Table H4. Awareness of treatment for HIV/AIDS

	YGN	MDY	MYA	PTN	PYY	Variable name
Has heard of treatment of HIV/AIDS	99%	80%	76%	82%	88%	**v909**
95% CI	*(97-100)*	*(74-86)*	*(70-81)*	*(76-87)*	*(84-91)*	
Denominator (all)	399	371	380	399	419	

Table H5. Places known where an HIV can be done

	YGN	MDY	MYA	PTN	PYY	Variable name
Knows where to go for HIV testing	77%	91%	80%	97%	98%	**v910**
95% CI	*(73-82)*	*(85-97)*	*(76-84)*	*(94-99)*	*(96-99)*	
Denominator (all)	399	381	395	401	419	

Places mentioned for HIV testing (multiple responses allowed)

AIDS/STD team	3%	14%	7%	52%	15%	**v911a**
95% CI	*(1-5)*	*(8-19)*	*(3-12)*	*(44-60)*	*(12-19)*	
Public hospital	22%	14%	52%	21%	14%	**v911b**
95% CI	*(17-27)*	*(9-20)*	*(44-59)*	*(15-26)*	*(11-17)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Private hospital/Clinic/ GP	3%	16%	39%	4%	5%	v911c
95% CI	*(1-6)*	*(11-22)*	*(31-47)*	*(2-6)*	*(3-6)*	
Clinics at NGO	93%	88%	51%	97%	98%	v911d
95% CI	*(90-96)*	*(82-93)*	*(43-59)*	*(95-99)*	*(97-99)*	
Denominator (respondents who knew where to go for HIV test)	301	357	309	387	410	

Table H6. HIV testing experience

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever tested	68%	78%	39%	72%	88%	v912
95% CI	*(62-75)*	*(71-86)*	*(32-45)*	*(64-80)*	*(85-91)*	
Tested in the last year	46%	62%	21%	43%	76%	tstlstyr
95% CI	*(40-52)*	*(53-70)*	*(16-26)*	*(36-51)*	*(72-80)*	
Tested and received results in the last year (GARPR)	44%	60%	18%	42%	74%	garprtest
95% CI	*(38-50)*	*(52-67)*	*(13-23)*	*(35-49)*	*(69-78)*	
Denominator (all)	399	381	396	401	419	

Table H7. Reasons of not taking HIV test (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
Feel healthy, not sick		28%			19%	v913a
95% CI		*(13-43)*			*(10-28)*	
Afraid of learning HIV status		35%			23%	v913b
95% CI		*(17-54)*			*(13-32)*	
Fear of stigma/discrimination		0%			14%	v913c
95% CI					*(2-26)*	
Don't think I have HIV		5%			17%	v913d
95% CI		*((-1)-10)*			*(5-31)*	
I trust my partner		3%			0%	v913e

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI		*(0-6)*				
No money to test		0%			0%	**v913f**
95% CI						
Do not know a place to test		26%			12%	**v913g**
95% CI		(11-40)			(10-13)	
Other		34%			18%	**v913h**
95% CI		*(14-55)*			*(10-25)*	
Denominator (respondent who never tested for HIV)	Can't run	63	Can't run	Can't run	47	

Table H8. Reasons for last HIV test (multiple responses allowed)

	YGN	MDY	MYA	PTN	PYY	Variable name
I want to know my HIV status	77%	97%	82%	95%	98%	**v915a**
95% CI	*(70-84)*	*(95-99)*	*(75-89)*	*(93-98)*	*(96-99)*	
Urged by spouse or partner	0.4%	0.3%	2%	1%	0.4%	**v915b**
95% CI	*(0-1)*	*(0-1)*	*(0-3)*	*(0-1)*	*(0-1)*	
Urged by friend	7%	1%	1%	21%	8%	**v915c**
95% CI	*(3-12)*	*(0-2)*	*(0-2)*	*(15-28)*	*(5-10)*	
Was pregnant	1%	1%	2%	0.5%	0%	**v915d**
95% CI	*(0-3)*	*(0-1)*	*(0-4)*	*(0-1)*		
Recommended by doctor	8%	3%	7%	1%	1%	**v915e**
95% CI	*(4-12)*	*(0-6)*	*(3-10)*	*(0-2)*	*(0-1)*	
For regular blood testing	5%	1%	11%	3%	2%	**v915f**
95% CI	*(2-9)*	*((-1)-3)*	*(5-18)*	*(0-7)*	*(0-4)*	
Forced by employer	1%	0%	1%	1%	0%	**v915g**
95% CI	*((-1)-2)*		*((-1)-2)*	*(0-2)*		
Other	0%	0%	0.0%	0%	0.4%	**v915h**

95% CI					*(0-1)*	
D(respondent who ever tested for HIV)	268	318	171	310	372	

Table H9. Place of last HIV test

	YGN	MDY	MYA	PTN	PYY	Variable name
Public	8%	8%	22%	13%	3%	**v916recod**
95% CI	*(5-12)*	*(5-12)*	*(15-28)*	*(7-19)*	*(1-4)*	
Private	*2%*	*4%*	*13%*	*2%*	*3%*	
95% CI	*(0-3)*	(1-8)	(4-23)	((-1)-4)	(2-5)	
Clinic at NGO	90%	87%	65%	86%	94%	
95% CI	*(86-94)*	*(82-92)*	*(54-75)*	*(80-92)*	*(92-96)*	
Denominator (respondent who ever tested for HIV)	269	317	171	310	372	

Table H10. HIV test results

	YGN	MDY	MYA	PTN	PYY	Variable name
Received the result of last HIV test	96%	97%	90%	95%	96%	**v917**
95% CI	*(94-99)*	*(95-99)*	*(82-97)*	*(90-100)*	*(94-98)*	
Denominator (respondent who ever tested for HIV)	269	318	170	309	372	

Shared the result with other

Shared result	54%	69%	71%	66%	31%	**v918**
95% CI	*(47-61)*	*(62-76)*	*(62-81)*	*(58-74)*	*(27-36)*	
Denominator (respondent who received the result of last test)	257	308	156	299	359	

With whom respondents shared the result

Spouse/regular partner	4%	39%	31%	20%	10%	v919a
95% CI	*(0-9)*	*(29-49)*	*(19-42)*	*(11-28)*	*(3-17)*	
Friend	34%	37%	16%	53%	45%	v919b
95% CI	*(23-46)*	*(26-49)*	*(3-30)*	*(43-64)*	*(36-55)*	
Family member	47%	15%	33%	30%	17%	v919c
95% CI	*(33-61)*	*(9-22)*	*(21-47)*	*(21-39)*	*(11-23)*	
	YGN	MDY	MYA	PTN	PYY	Variable name
Health staff	11%	10%	54%	2%	10%	v919d
95% CI	*(2-21)*	*(3-17)*	*(36-71)*	*(1-2)*	*(5-16)*	
Colleagues	6%	13%	12%	0.3%	2%	v919e
95% CI	*(2-9)*	*(7-19)*	*((-6)-30)*	*(0-1)*	*((-1)-5)*	
Employer	0%	0%	0%	0%	1%	v919f
95% CI					*((-2)-5)*	
Peers	5%	5%	5%	1%	20%	v919g
95% CI	*(1-8)*	*(2-9)*	*(0-9)*	*(0-1)*	*(13-28)*	
Denominator (respondents who shared their last HIV test result)	126	204	106	197	116	

Table H11. Know positive result of last HIV test

	YGN	MDY	MYA	PTN	PYY	Variable name
HIV positive	18%	8%	4%	8%	6%	v920recod
95% CI	*(10-27)*	*(4-12)*	*(1-7)*	*(3-14)*	*(3-9)*	
Denominator (respondent who received the result of last test)	123	301	151	298	355	

Table H12. Access to HIV treatment/care and support

	YGN	MDY	MYA	PTN	PYY	Variable name
Receiving treatment	97%		78%	97%	67%	v921
95% CI	*(87-107)*		*(64-98)*	*(88-106)*	*(40-95)*	

Denominator (respondent who reported their last test was positive)	26%	Can't run	10	17	16	

Places mentioned for HIV treatment services (multiple responses allowed)

AIDS/STD team	0%	13%	13%	0%	0%	v922a
95% CI		*((-18)-44)*	*((-2)-27)*			
Public hospital/clinic	18%	76%	45%	21%	23%	v922b
95% CI	*(2-35)*	*(42-110)*	*(21-72)*	*((-6)-45)*	*((-3)-47)*	
Clinics at NGOs	82%	16%	42%	79%	Can't run	v922d
95% CI	*(64-99)*	*(16-16)*	*(17-65)*	*(56-105)*		
Denominator (respondents receiving HIV care and support)	25	21	7	16	10	

Table H13. Testing experience of last regular partner

	YGN	MDY	MYA	PTN	PYY	Variable name
Never tested	72%	53%	55%	55%	37%	v923
95% CI	*(67-78)*	*(46-60)*	*(49-62)*	*(47-63)*	*(32-41)*	
Ever tested	*21%*	*32%*	*34%*	*36%*	*22%*	
95% CI	*(16-26)*	*(26-38)*	*(28-40)*	*(29-44)*	*(19-26)*	
Have no regular partner/spouse	3%	0%	2%	3%	0%	
95% CI	*(1-5)*		*(0-3)*	*(1-5)*		
Don't know	4%	15%	9%	6%	41%	
95% CI	*(1-6)*	*(10-20)*	*(5-13)*	*(2-10)*	*(36-46)*	
Denominator (all)	399	381	395	401	419	

Last regular partner ever tested for HIV

Ever tested	55%	43%	56%	42%	39%	v923sp
95% CI	*(44-65)*	*(35-52)*	*(44-68)*	*(33-51)*	*(32-46)*	
Denominator (respondents who had a regular partner)	112	259	138	281	214	

Table H14.Know the status of last regular partner

	YGN	MDY	MYA	PTN	PYY	Variable name
Negative	88%	88%	80%	83%	95%	**v924**
95% CI	*(81-94)*	*(80-96)*	*(70-89)*	*(73-92)*	*(90-99)*	
Positive	*10%*	*7%*	3%	*3%*	*2%*	
95% CI	*(5-16)*	*(0-14)*	*(0-5)*	*(0-5)*	*(0-3)*	
Have not discussed this	1%	4%	8%	2%	2%	
95% CI	*(0-1)*	*(0-8)*	*(1-17)*	*(0-3)*	*((-1)-5)*	
Don't know	1%	1%	9%	13%	2%	
95% CI	*((-2)-5)*	*((-1)-3)*	*(2-16)*	*(4-22)*	*((-1)-5)*	
Denominator (respondents who know the status of their last regular partner)	82	140	138	151	101	

I. STIGMA, DISCRIMINATION AND VIOLENCE

Table I1. Pretended not to be FSW in the past 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	12%	44%	11%	18%	33%	**v1001**
95% CI	*(8-16)*	*(37-51)*	*(8-14)*	*(13-22)*	*(28-37)*	
Sometimes	*54%*	*42%*	*29%*	*51%*	*28%*	
95% CI	*(48-61)*	*(35-49)*	*(23-35)*	*(43-58)*	*(24-32)*	
Often	27%	9%	43%	26%	21%	
95% CI	*(21-33)*	*(5-13)*	*(37-50)*	*(19-33)*	*(17-26)*	
Always	6%	5%	17%	6%	18%	
95% CI	*(4-9)*	*(3-8)*	*(13-21)*	*(2-9)*	*(15-22)*	
Denominator (all)	399	381	396	401	419	

Table I2. Threatened with violence for being FSW in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	19%	67%	23%	35%	43%	**v1002**
95% CI	*(15-24)*	*(61-73)*	*(19-28)*	*(28-42)*	*(37-49)*	
Sometimes	*58%*	*27%*	*47%*	*43%*	*20%*	
95% CI	*(52-63)*	*(21-32)*	*(41-54)*	*(35-50)*	*(17-24)*	
Often	21%	5%	25%	19%	27%	
95% CI	*(17-26)*	*(2-8)*	*(19-31)*	*(13-25)*	*(22-32)*	
Always	2%	1%	4%	3%	10%	
95% CI	*(0-3)*	*(0-2)*	*(2-6)*	*(0-5)*	*(7-13)*	
Denominator (all)	399	381	395	401	419	

Table I3. Avoided seeking health care in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	25%	64%	38%	49%	48%	**v1003**
95% CI	*(21-30)*	*(57-71)*	*(32-45)*	*(42-57)*	*(41-54)*	
Sometimes	*24%*	*32%*	*42%*	*26%*	*12%*	
95% CI	*(18-29)*	*(25-39)*	*(35-49)*	*(19-33)*	*(9-15)*	
Often	50%	2%	15%	17%	12%	
95% CI	*(44-56)*	*(0-3)*	*(10-19)*	*(12-22)*	*(9-16)*	
Always	1%	2%	5%	7%	28%	
95% CI	*(0-2)*	*(0-4)*	*(3-8)*	*(3-11)*	*(23-33)*	
Denominator (all)	399	381	395	401	419	

Table I4. Rejected by the family or relatives in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	37%	70%	75%	21%	57%	**v1004**
95% CI	*(32-43)*	*(64-77)*	*(70-80)*	*(16-27)*	*(51-62)*	
Sometimes	*25%*	*17%*	*10%*	*17%*	*11%*	

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*(19-30)*	*(12-22)*	*(7-13)*	*(12-23)*	*(8-14)*	
Often	35%	7%	5%	45%	13%	
95% CI	*(29-40)*	*(3-10)*	*(3-8)*	*(37-53)*	*(10-16)*	
Always	4%	6%	9%	16%	19%	
95% CI	*(2-6)*	*(3-10)*	*(6-13)*	*(10-22)*	*(15-23)*	
Denominator (all)	399	381	395	401	418	

Table I5. Hit or beaten for being FSW in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	44%	71%	84%	53%	61%	**v1005**
95% CI	*(38-50)*	*(65-77)*	*(80-88)*	*(45-60)*	*(54-67)*	
Sometimes	*53%*	*25%*	*13%*	*38%*	*21%*	
95% CI	*(47-58)*	*(20-31)*	*(9-17)*	*(31-45)*	*(17-25)*	
Often	3%	3%	2%	9%	17%	
95% CI	*(1-5)*	*(1-5)*	*(1-4)*	*(4-14)*	*(13-21)*	
Always	0.2%	0.4%	1%	1%	2%	
95% CI	*(0-0.5)*	*(0-1)*	*(0-1)*	*(0-1)*	*(1-3)*	
Denominator (all)	399	381	396	401	419	

Table I6. Forced to have sex against the will in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	47%	85%	92%	58%	57%	**v1006**
95% CI	*(41-53)*	*(79-90)*	*(89-94)*	*(49-66)*	*(50-65)*	
Sometimes	*52%*	*13%*	*8%*	*35%*	*23%*	
95% CI	*(46-58)*	*(8-18)*	*(5-11)*	*(27-43)*	*(18-28)*	
Often	1%	2%	0.3%	7%	18%	
95% CI	*(0-2)*	*((-1)-4)*	*(0-1)*	*(3-11)*	*(13-22)*	
Always	0%	0.1%	0.2%	0.2%	2%	
95% CI		*(0-0.4)*	*(0-0.5)*	*(0-0.4)*	*(0-3)*	
Denominator (all)	397	381	396	401	419	

Table I7. Had sex because of fear of client in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	44%	66%	69%	44%	53%	**v1007**
95% CI	*(38-50)*	*(59-74)*	*(63-75)*	*(36-51)*	*(47-60)*	
Sometimes	*55%*	*30%*	*28%*	37%	34%	
95% CI	*(49-61)*	*(22-37)*	*(22-34)*	*(29-44)*	*(28-39)*	
Often	1%	3%	3%	*19%*	*12%*	
95% CI	*(0-2)*	*(1-5)*	*(1-4)*	*(13-25)*	*(9-15)*	
Always	0%	1%	0.2%	1%	1.2%	
95% CI		*(0-2)*	*(0-0.3)*	*(0-2)*	*(0-2)*	
Denominator (all)	398	381	396	401	419	

Table I8. Forced by client to do something sexual that is degrading or humiliating in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	37%	74%	34%	31%	55%	**v1008**
95% CI	*(31-43)*	*(68-80)*	*(27-41)*	*(24-39)*	*(48-62)*	
Sometimes	*60%*	*23%*	*48%*	*28%*	*26%*	
95% CI	*(54-66)*	*(18-29)*	*(41-56)*	*(21-35)*	*(21-30)*	
Often	2%	2%	16%	40%	19%	
95% CI	*(0-4)*	*(1-4)*	*(11-21)*	*(31-49)*	*(14-23)*	
Always	0%	0%	2%	1%	0.4%	
95% CI			*(1-3)*	*(0-2)*	*(0-1)*	
Denominator (all)	399	381	396	401	419	

Table I9. Harassed by police or other authorities in the last 12 months

	YGN	MDY	MYA	PTN	PYY	Variable name
Never	35%	61%	87%	36%	82%	**v1009**
95% CI	*(29-41)*	*(53-68)*	*(82-91)*	*(29-44)*	*(79-86)*	
Sometimes	*49%*	*32%*	*12%*	*50%*	*10%*	
95% CI	*(43-55)*	*(25-40)*	*(8-17)*	*(42-58)*	*(7-12)*	
Often	15%	5%	1%	11%	7%	

	YGN	MDY	MYA	PTN	PYY	Variable name
95% CI	*(11-19)*	*(2-7)*	*(0-2)*	*(6-17)*	*(4-9)*	
Always	1%	2%	0.1%	2%	1%	
95% CI	*(0-1)*	*(0-4)*	*(0-0.2)*	*(0-5)*	*(0-3)*	
Denominator (all)	399	381	396	401	419	

Table I10. History of arrest

Ever arrested or detained

	YGN	MDY	MYA	PTN	PYY	Variable name
Ever arrested	11%	22%	8%	18%	9%	**v1010**
95% CI	*(7-14)*	*(16-28)*	*(4-11)*	*(13-24)*	*(6-11)*	

Ever arrested or detained due to sex work

Ever arrest due to sex work	10%	19%	5%	16%	7%	**v1011all**
95% CI	*(6-13)*	*(13-25)*	*(2-8)*	*(10-21)*	*(5-10)*	
Denominator (all)	399	381	396	401	419	

J. EXPOSURE TO INTERVENTION

Table J1. Service utilization

	YGN	MDY	MYA	PTN	PYY	Variable name
Received condoms in the last 12 months by outreach staff	69%	76%	42%	94%	94%	**v1101**
95% CI	*(62-76)*	*(68-83)*	*(35-49)*	*(91-97)*	*(91-96)*	
Received condoms in the last 12 months and knows a place to go for an HIV test (GARPR)	65%	76%	37%	92%	93%	**garprprev**
95% CI	*(58-71)*	*(68-83)*	*(31-44)*	*(88-96)*	*(90-96)*	
Received lubricant in the last 12 months by outreach workers	49%	67%	25%	54%	86%	**v1102**
95% CI	*(42-56)*	*(59-74)*	*(19-31)*	*(47-62)*	*(83-89)*	

	YGN	MDY	MYA	PTN	PYY	Variable name
Received an HIV test from "PSI" Top Centre during Jan to March 2015	22%	28%	9%	17%	50%	**v1103**
95% CI	*(17-28)*	*(21-35)*	*(6-13)*	*(12-21)*	*(45-54)*	
Visited "PSI" Top Centre during Jan to March 2015	23%	42%	19%	36%	78%	**v1104**
95% CI	*(18-29)*	*(33-50)*	*(13-25)*	*(29-43)*	*(75-82)*	
Received a jade pendent after Thingyan 2015	3%	13%	8%	19%	24%	**v1105**
95% CI	*(0-5)*	*(7-20)*	*(4-11)*	*(13-25)*	*(17-31)*	
Denominator (all)	399	381	396	401	419	

K. BLOOD TEST RESULTS

Table K1. HIV prevalence

	YGN	MDY	MYA	PTN	PYY	Variable name
HIV positive	25%	14%	5%	11%	11%	**v1201recod**
95% CI	*(19-31)*	*(8-20)*	*(3-7)*	*(6-15)*	*(8-14)*	
Denominator (all)	399	380	396	401	419	