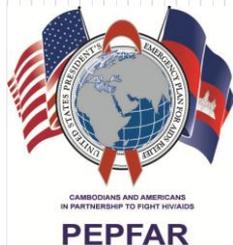


Integrated HIV Bio-Behavioral Surveillance (IBBS 2016) among Female Entertainment Workers

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Outline

- Background
- Objectives
- Methods
- Findings
- Conclusions

Background (1)

- Cambodia has a strong active surveillance system:
 - HIV Sentinel Surveillance (HSS) since 1994
 - STI Surveillance Survey (SSS) since 1996
 - Behavioral Surveillance Survey (BSS) since 1997
- The purposes are to monitor and document trends of HIV, STI and behavior changes over time among sentinel groups (i.e. ANC) and key population (KP): MSM, PWUD, and EW.
- Despite the declining HIV prevalence to 0.6% among general population, high HIV prevalence remains concentrated in KPs.

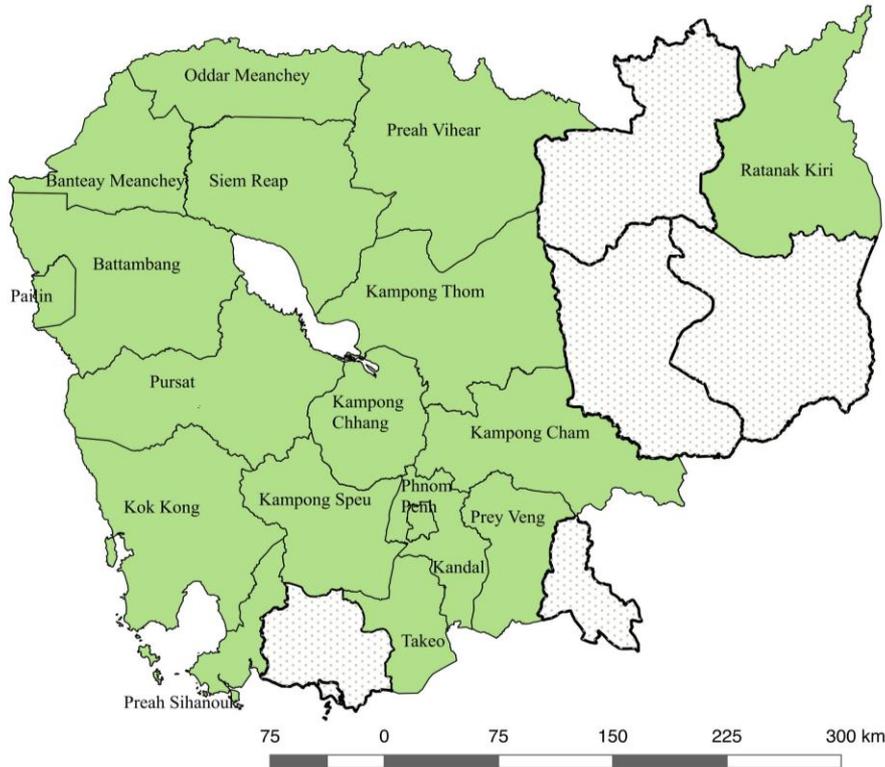
Background (2)

- The current concentrated HIV epidemic and limitations of integration of biological and behavioral surveys, NCHADS's current strategy for HIV surveillance is to perform IBBS among KPs:
 - EW (**HSS EW 2010**), **EW (2016)**
 - TG (2012), TG (2016)
 - MSM (2013), MSM (2015)
 - PWUD (2012), **PWUD (2017)**
- Non-venue based EW such as street-based and freelance EW have been recognized as a potentially higher risk group, but little data exist for the size or HIV prevalence of this population.

Objectives

- To determine national prevalence estimates and related risk behaviors for HIV and syphilis among EW
- To provide data for program planning and management of STI and HIV prevention programs for EW and their clients
- To evaluate HIV/syphilis prevalence and behaviors among EW

Site for EW IBBS 2016



- **IBBS sites:** 18 provinces were included except Kampot, Svay Rieng, Kratie, Stung Treng, Mondul Kiri and Keb.
- Actual sample size collection: **3,151**

Methods (1)

- Venue-based EW (karaoke establishments, massage parlors, and beer gardens) were recruited from all selected provinces.
- Non-venue-based EW (freelance, street-based and park-based FSW) were recruited from **hotspots in the 13 high-risk ODs** in **6** provinces/cities.
- A hotspot is a park or street where FSW are known to gather. These hotspot areas were based on 2013 EW census and mapping among freelance and street-based FSW in these 13 ODs

Methods (2)

Sampling for venue-based EWs

- Use a single-stage cluster sampling design
- The venue sampling frame included all EEs such as beer companies/ outlets and karaoke bars.
- For large EEs, the whole company/establishment were grouped into smaller groups based on work shift
- EE clusters were randomly selected from the venue-based EW sampling frame.
- **A take-all** method were used to invite all FEW at the selected EE clusters to participate in the survey.

Methods (3)

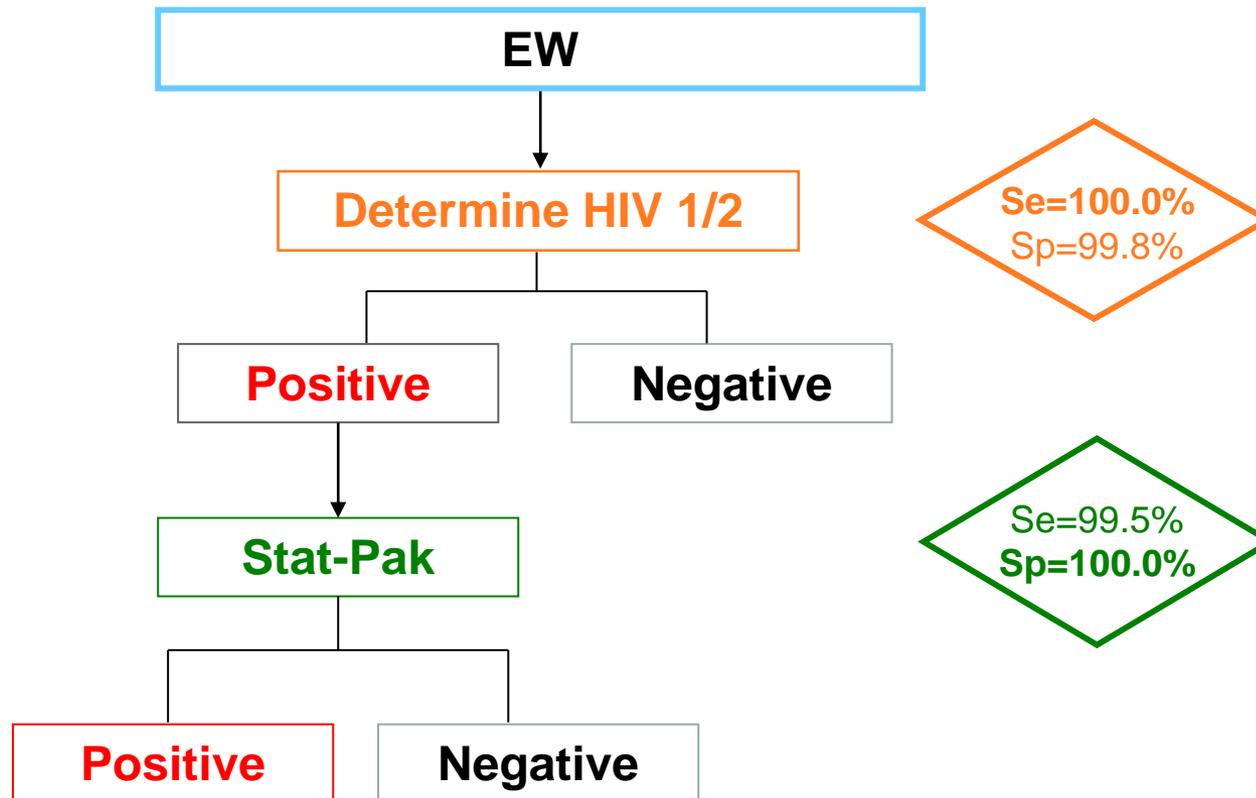
- **Sampling for non-venue-based EW**
 - Use a time-location sampling (TLS) method.
 - All known hotspots (street corners, parks) where non-venue EW are congregated were listed.
 - TLS needs locations and specific dates/times (4 hours time periods). Then, they were randomly selected by the survey team

Data Collection:

Blood Sample and Questionnaire

- 5 ml of venous blood samples were collected, tested and stored on DBS cards
- HIV 1/2 Determine, Stat-Pak and syphilis Determine test were performed **at the field**
- Questionnaire contained 80 questions divided into 6 sections:
 - Demographic characteristics
 - Sexual behaviors and reproductive health
 - Drug abuse and alcohol
 - Violence against EW
 - STI self reported and access to services
 - HIV knowledge and testing

HIV testing algorithm

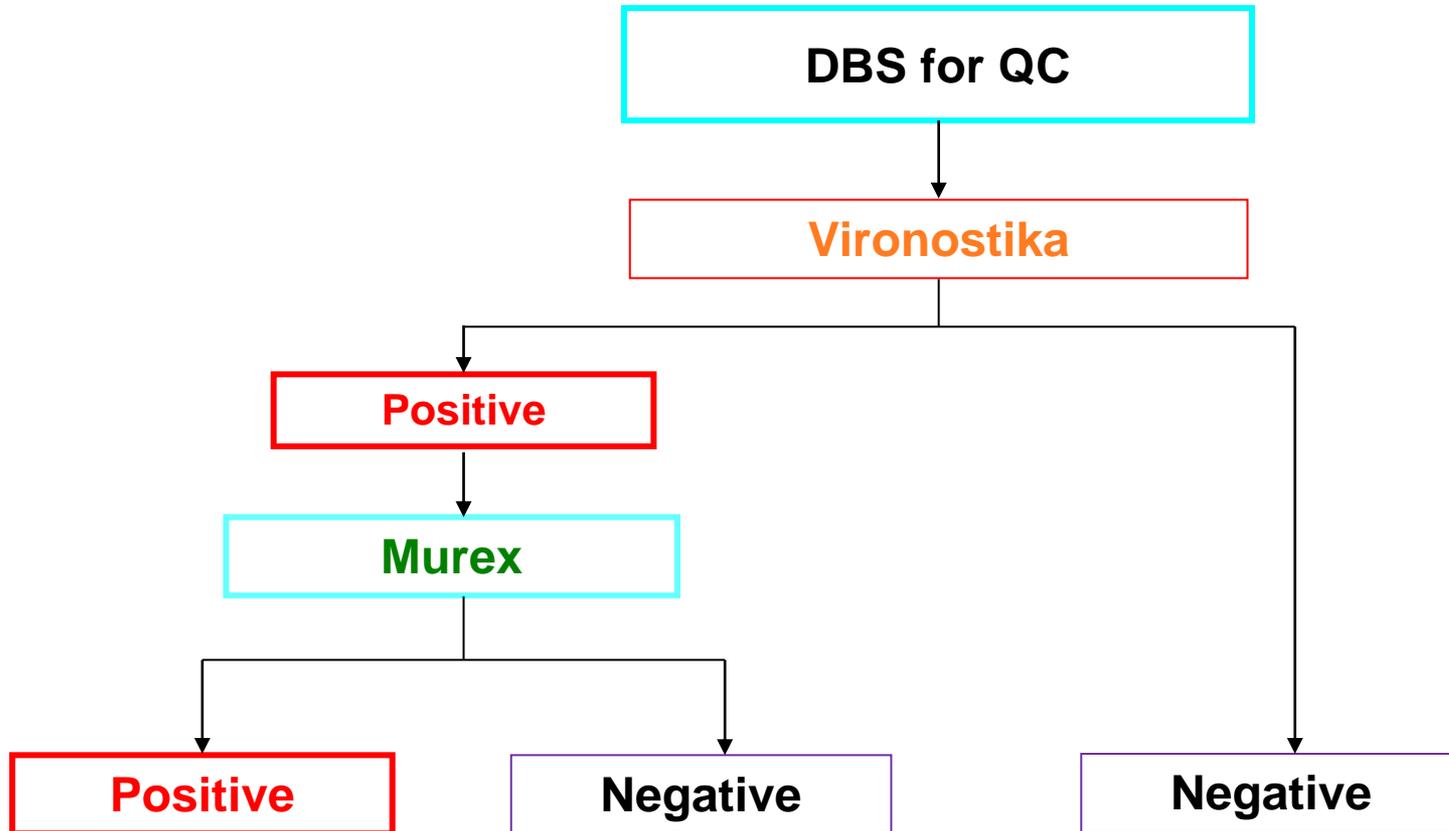


Sensitivity (Se) and specificity (Sp) data from phase 1 validation of 5 rapid HIV tests conducted in Cambodia in 2004. The combined algorithm was found to be 99.5% sensitive and 100% specific.

HIV Quality control testing

- QC was performed at NCHADS central laboratory
- All positive samples were tested
- Randomly 10% of all non-reactive specimens were tested
- Two enzyme Immunoassays (EIA) were used for QC (Vironostika HIV Uniform and Murex HIV- 1.2 .0) according to the protocol

Quality control testing algorithm



** DBS: Dried blood spot (DBS) card; QC: Quality Control*

Data management and analysis

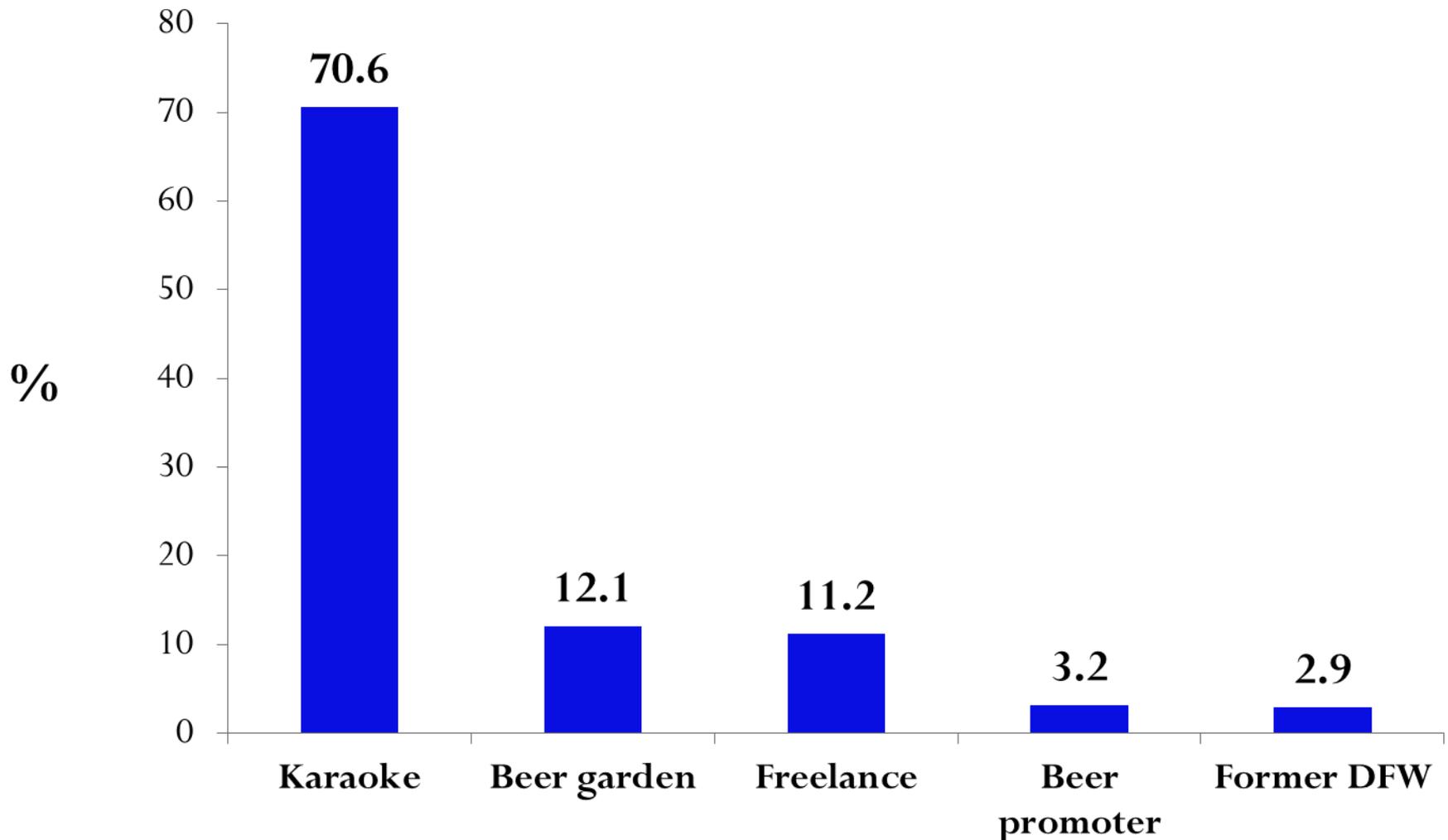
- Data were entered into Epi-Data V3 Database
- Sampling weight was calculated to account for the difference between provincial EW population size
- Weighted data analysis was conducted in STATA V14
- Descriptive statistics were calculated including mean, median, frequency, proportion, 95% CI
- Bivariate analysis was also conducted to determine the association between HIV prevalence and certain EW characteristics

Findings

Demographic Characteristics

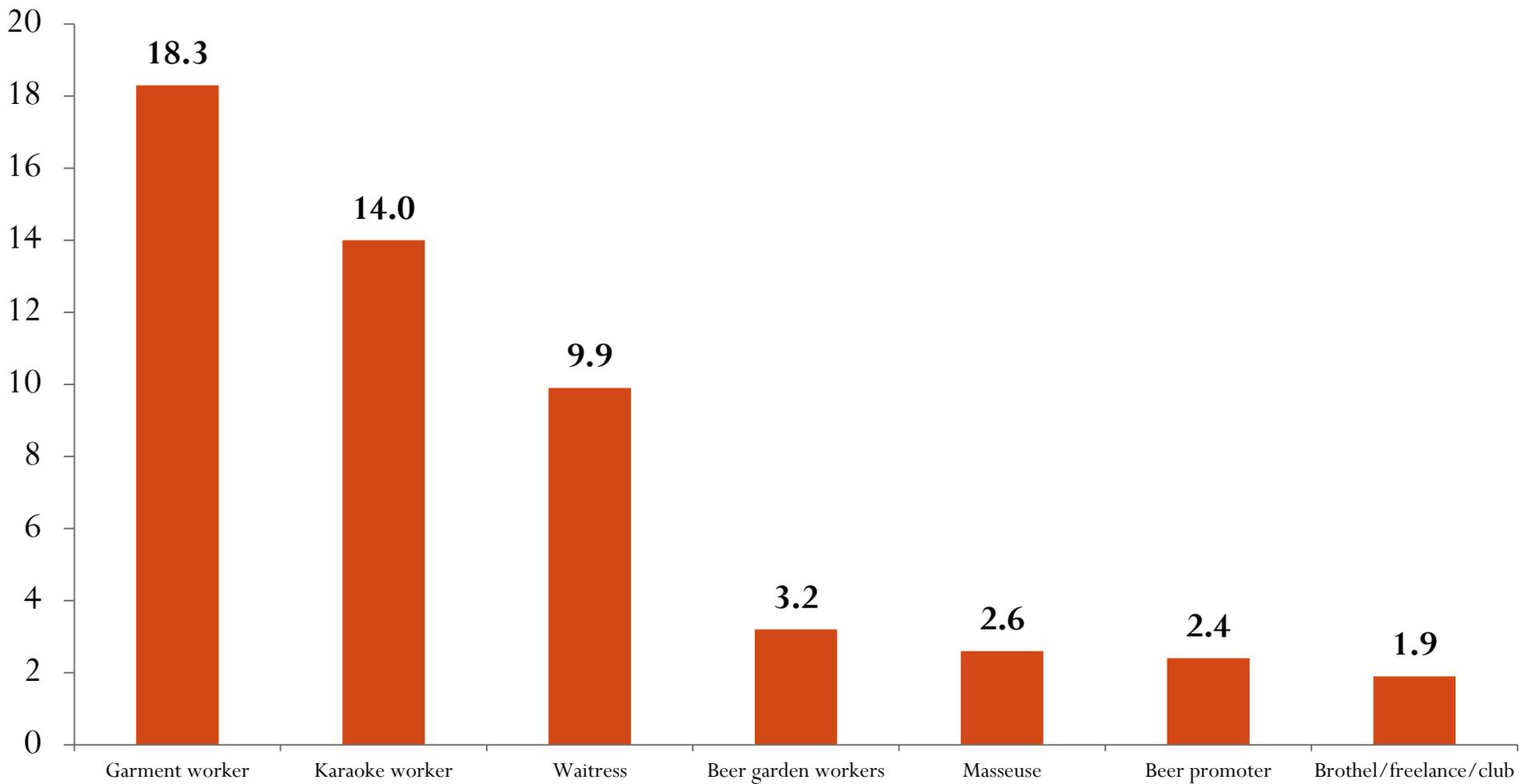
Variables	N = 3151
Mean age in year (median)	26.1 (25.0)
Mean years of education, (median)	5.6 (6.0)
Report no schooling	14.4%
EW who were married/in union	33.4%
Living in the current city for less than 1 year	30.1%
Mean duration in current job in months (median)	19.5 (7.0)

Sample Distribution among Different Types of EW, N = 3150



Note: *Beer garden women were recruited at restaurants. They are service women, while beer promoters were recruited at beer company outlets*

Previous jobs (in percent, N = 3103)



Sexual Behaviors (1)

Variables	Freq.
Mean age at first sexual activity in years (median) n = 3144	17.5 (18.0)
EW reported not sexually active, n = 3144	10.0%
Partners of the first sex among EW who were sexually active, n = 2823	
Husband	57.0%
Boyfriend	34.3%
Client	6.4%
Rape	1.7%
Others	0.5%

Sexual Behaviors (2)

Variables	Freq.
Report sex in exchange for gift or money in past 12 months, n = 2594	60.7%
Average number of clients in the past week among those reported paid sex, n = 1360	3.3 (2.0)
Report > 2 clients in the last working day, n = 1397	22.2%
Had sweetheart at least one in the past year, n = 3104	52.3%
Had sex with sweetheart in the past year among those reported having sweethearts, n = 1714	86.9%

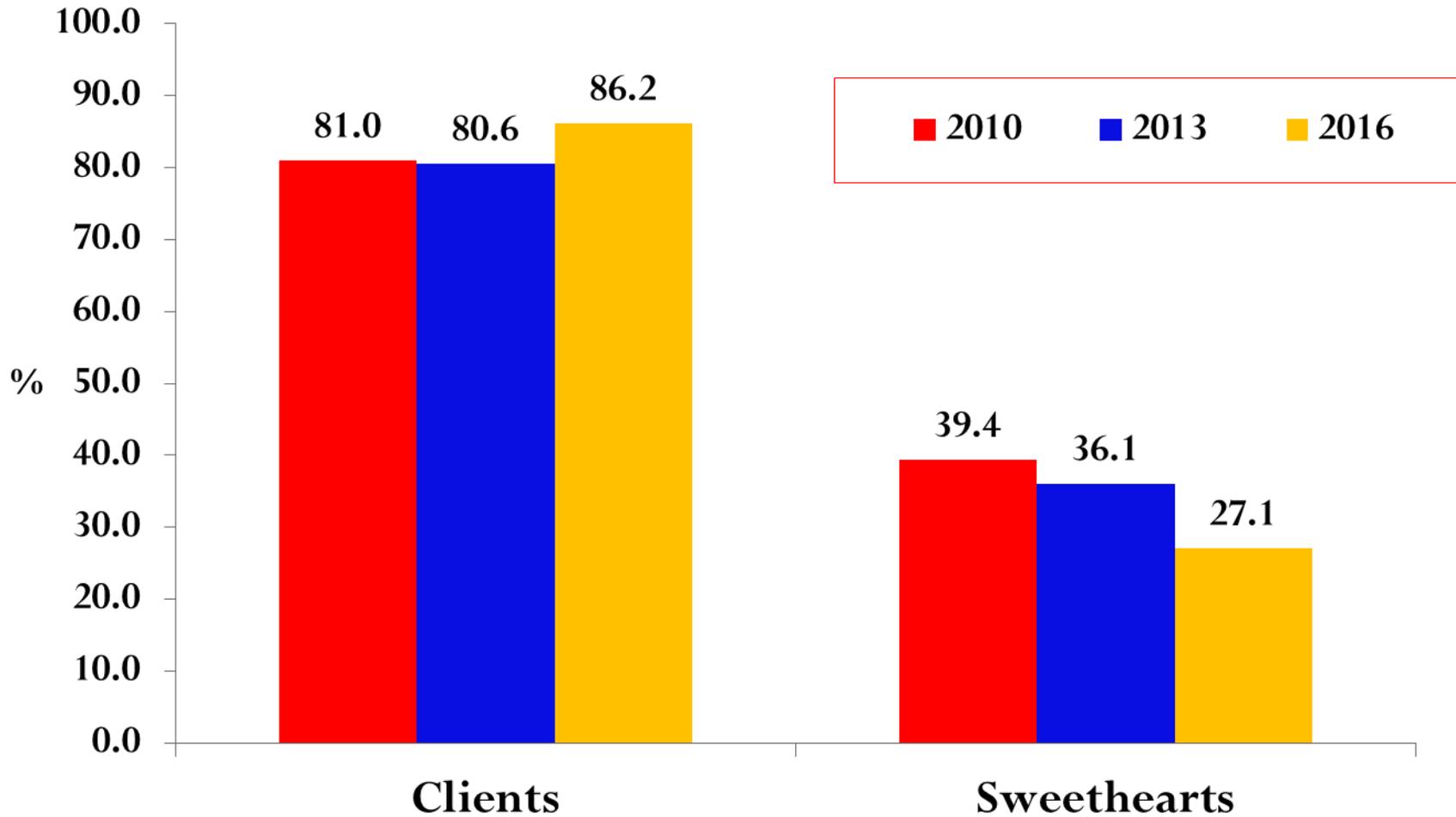
Sweetheart (boyfriends) those who have romantic relationship, non married and non paid sex partners

Patterns of Condom Use

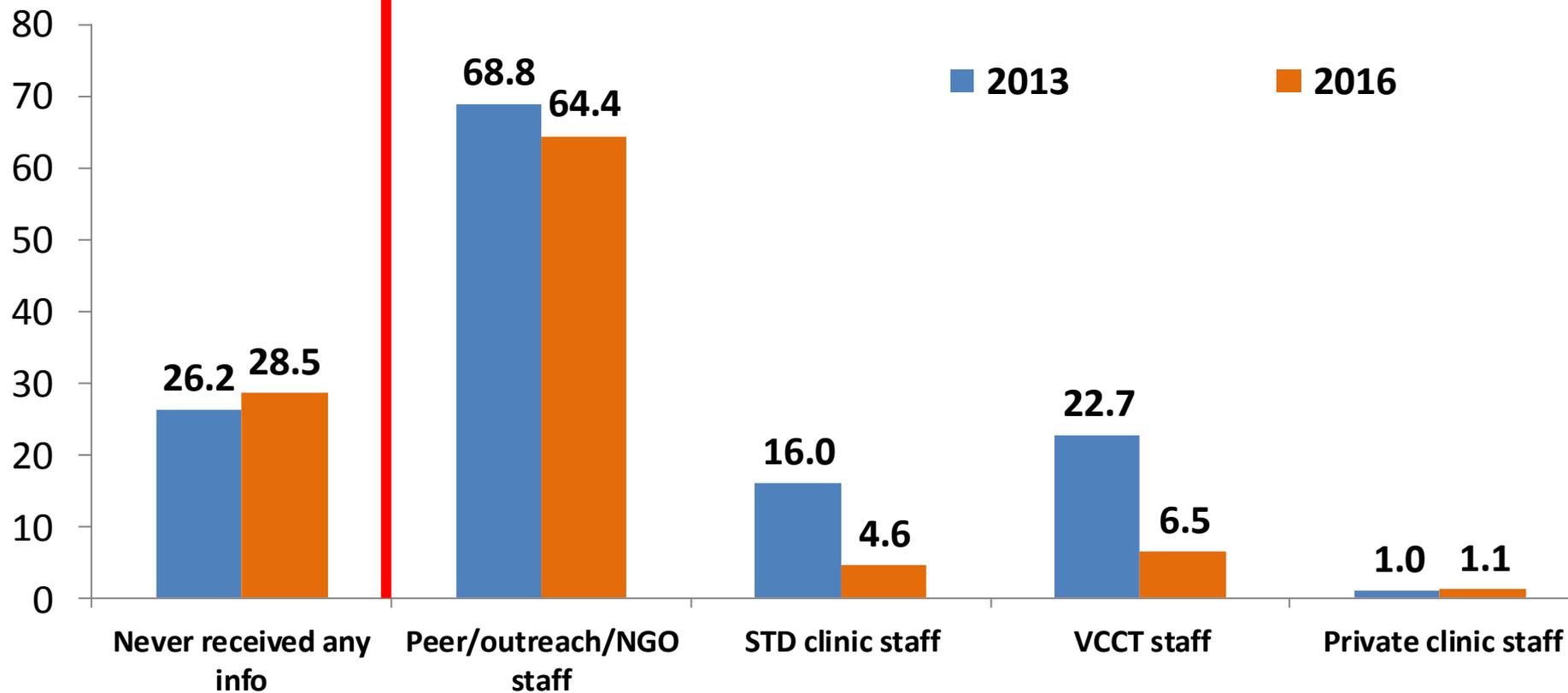
Variables	Freq.
Always condom use with sweetheart in the past 3 months, n = 1446	27.2%
Always condom use with husband in the past 3 months, n = 1053	15.2%
Always condom use in the past 3 months with clients n= 1252	86.2%
Always condom use in the past week with clients n = 1107	87.1%
Condom use with the most recent clients, n = 1348	91.8%

Note: *This is among EWs reporting sexually active and reported paid sex. Therefore, the denominators vary from question to question*

Consistent condom use over time among EWs



People who provides HIV information to EW (2016, n = 3150)



Sexual violence against EW

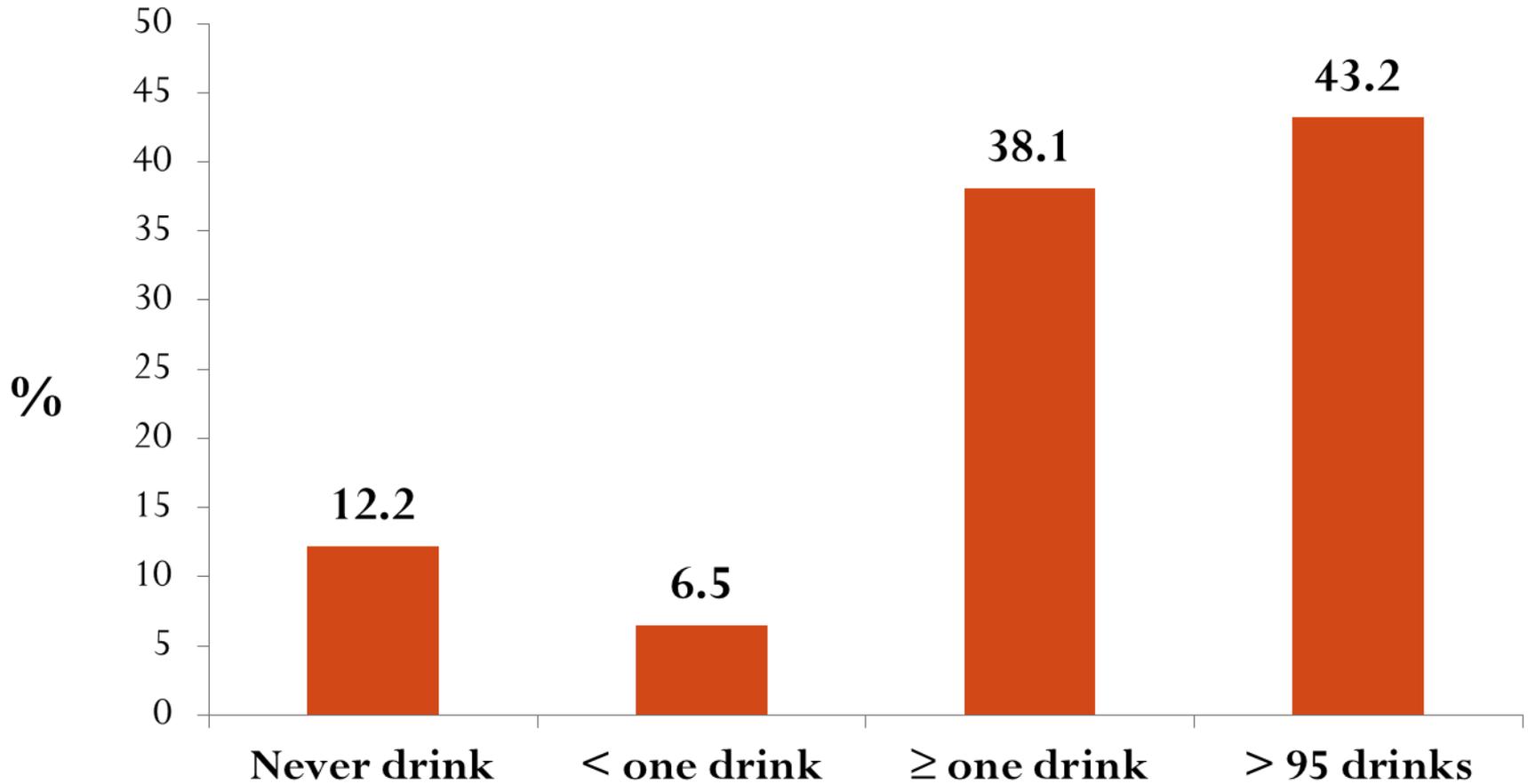
Variables	Freq.
Frequency of the physical violence (got slap, kick, hit) in the past 12 months, n = 3096	
Frequently	1.7%
Sometimes	2.5%
Never	95.8%
Physical violence by others rather than husband/sex partner, n = 2828	2.8%
Sexual violence against her will by husband/sex partner, n = 2823	3.0%
Forced into group sex with men , n = 2824	2.3%

Drug abuse and alcohol drinking

Variables	Freq.
Report ever used any drug, n = 3104	10.8%
Reported using ATS*, Yama and ice in past 12 months n = 3108	9.6%
Reported injecting drug in past 12 months, n = 3108	1.3%
Reported alcohol frequency past week while working n = 3099	
Never	12.4%
1- 6 times	2.8%
Every day	58.8%
Average amount of alcohol drink * in past week while working, n = 3098	17.0 (14.0)

* **ATS: Amphetamine type stimulant, one drink = one can of beer, or a bottle of beer, a glass of wine**

Amount of alcohol drinks in past week, n = 3098



Sexual and Reproductive Health (1)

Variables	Freq.
EW reported at least one pregnancy while working as EW n =2822	40.2%
EW reported at least one abortion while working as EW n =2779	33.3%
Abortion EW have had in the past ≤ 6 months among those reported abortion while being EW, n= 916	54.2%
Place for last abortion among those reported abortion, n = 920	
Private clinics	40.6%
Pharmacies	31.8%
Public health hospital, health center	16.4%
NGO clinics	9.2%
Traditional healer/Others	2.1%

Sexual and Reproductive Health (2)

Variables	Freq.
Currently reported using any methods of FP, n = 2828	72.9%
Different FP methods EW have used, n = 2828	
- Male condoms	37.2%
- Daily or monthly pills	14.0%
- Withdrawal	12.4%
- Injecting contraceptive	5.6%
- Period-based	2.6%
- Implant (under the skin)	2.1%
- IUD	1.8%
- Female sterilization	0.5%
- Emergency contraceptive	0.5%
- Female condoms	0.3%

STI Self Report and Usage of Services

Variables	Freq.
Reported any STI symptoms in the past year, n = 2829	18.8%
Abnormal vaginal discharge (with bad smell), n = 2829	40.7%
Genital ulcer/sore, n = 2828	1.8%
Genital warts, n = 2828	1.1%
Reported abdominal pain in past year (pelvic area), n = 2830	31.4%
First place for their last STI treatment among those reported symptoms in the past 12 months, n = 1071	
- NGO STD clinic	39.9%
- Health Center/Hospital	15.4%
- Pharmacy	15.1%
- Public STD clinic	13.8%
- No treatment	8.7%
- Private clinic	5.7%
- Tradi- practitioner	1.3%
Reported using public STI clinics in the past 3 months	
- One time	18.2%
- ≥ 2- 3 times	81.8%

HIV testing awareness places for testing

Variables	Freq.
Reported HIV test in the past 12 months, n = 3104	72.3%
Know places to have HIV testing, n = 3106	80.5%
Place for the last HIV testing among EW who tested, n = 2242	
- NGO VCT	43.5%
-Mobile testing	27.2%
-Public hospital/HC	12.0%
-VCCT	11.5%
- Private Clinic/ Lab	5.6%
- Others	0.2%

HIV testing awareness and access to ART

Variables	Freq.
Received HIV test result last time they had test n = 2245	97.2%
HIV test result was positive for those reported testing past 12 months and comfortable to tell the results, n = 1789	2.0%
Registration at AIDS care and treatment clinic for EW who were HIV (+), n = 32	81.3%
Currently on ART those who reported HIV positive	87.1%
Awareness of the availability of ARV drug , n = 3096	83.9%

Medical injection behaviors

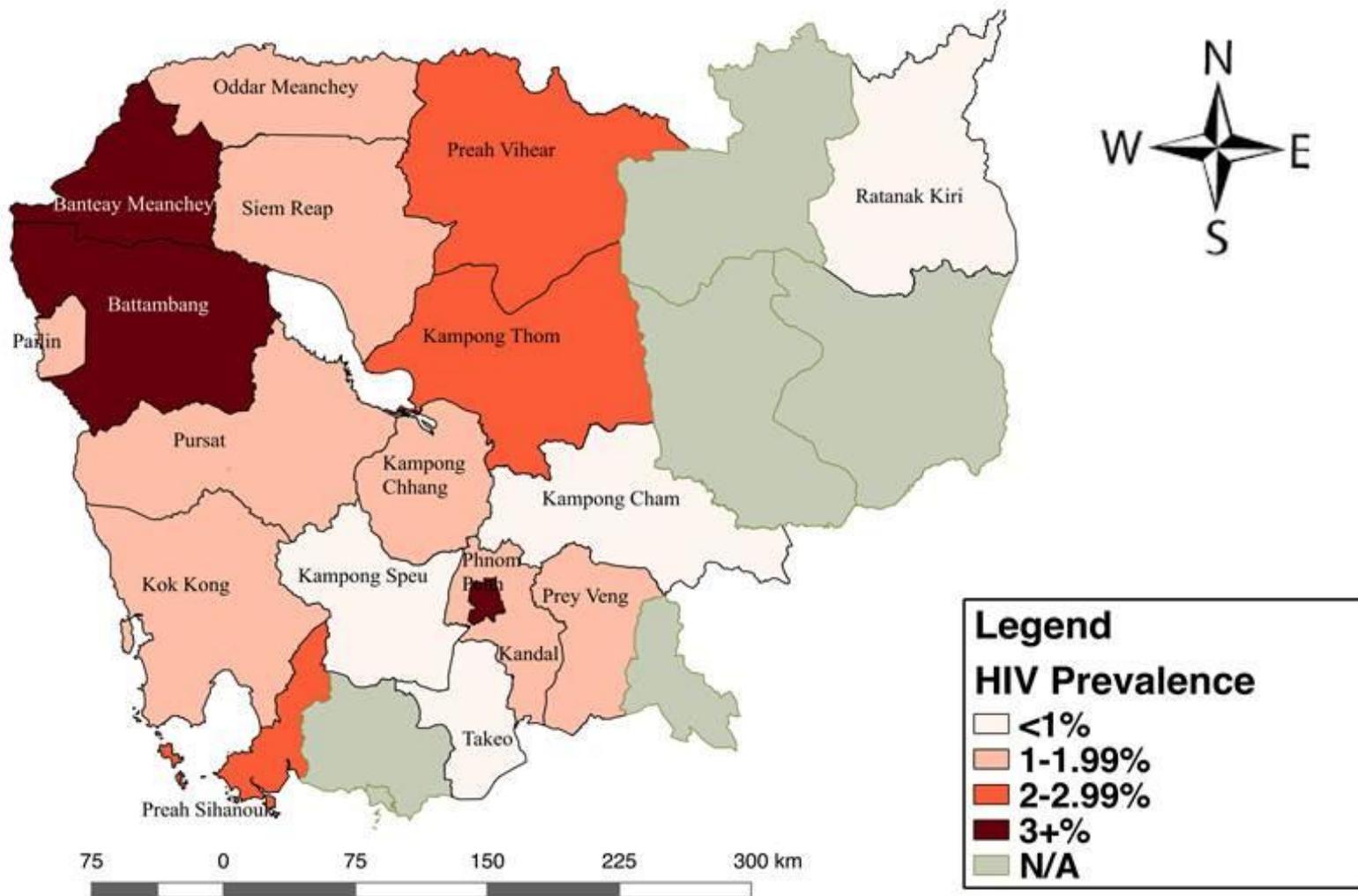
Variables	EW 2015
Got injections in the past 12 months, n =3103	25.2%
Used new syringe and needle, n=834	91.5%
Reported Don't Know, n = 834	6.7%
Got injections from Public Health Facilities, n = 844	
-Health center/health post	14.7%
-Provincial hospital	6.3%
-District hospital	3.2%
-National hospital	1.7%
Injection from Private Health Facilities, n = 844	
-Clinic	36.2%
-Private hospital	23.1%
-Home of nurse	5.4%
-Pharmacy/others	2.2%
Got injection(s) from Other Facilities	
-At home	7.7%
-Drug store/others	2.3%

HIV prevalence and distribution by certain characteristics

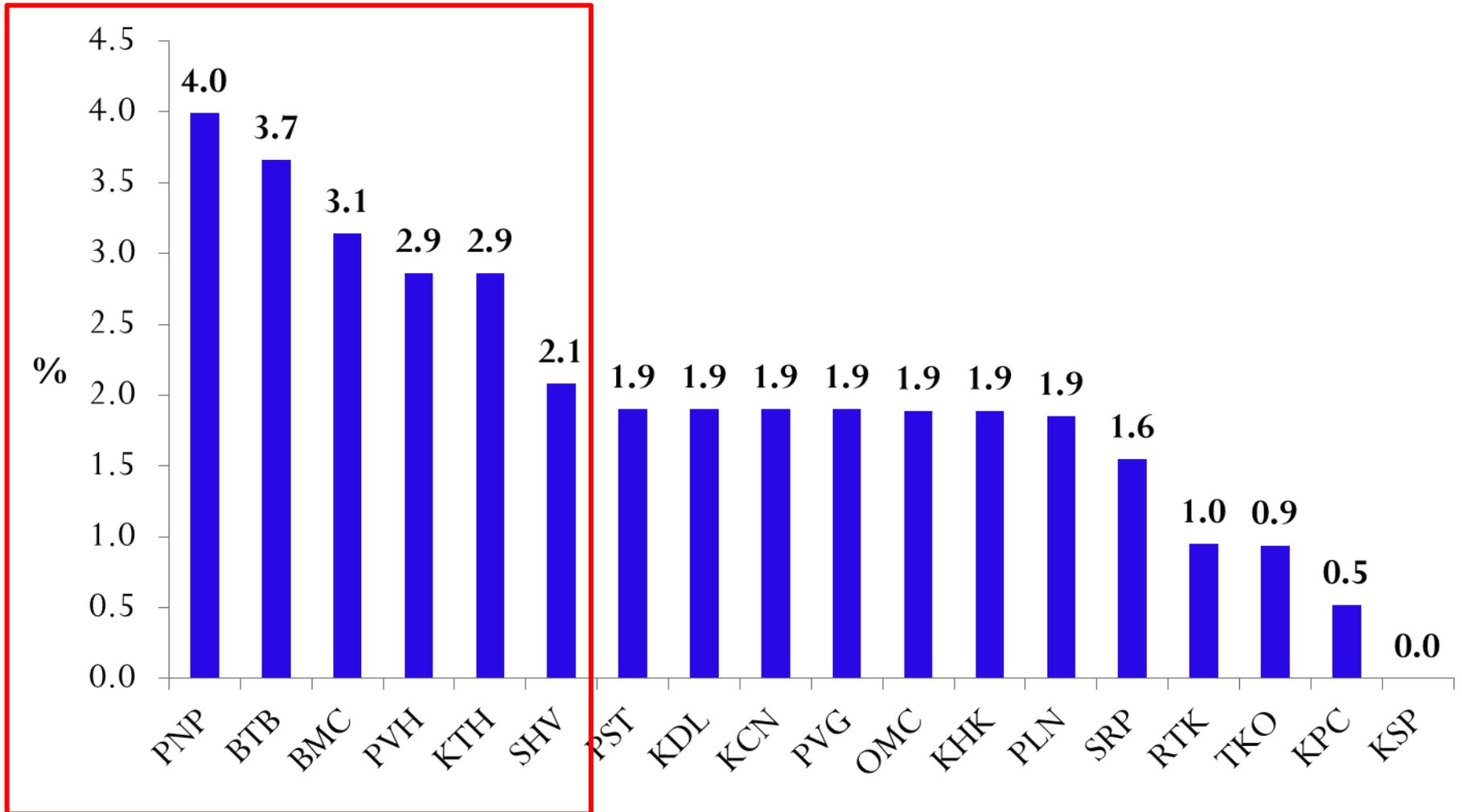
HIV and syphilis prevalence, HIV by numbers of partner

Variable	n	HIV (+)	%	95% CI
Overall HIV prevalence	3149	72	3.20	1.76- 5.75
Syphilis prevalence	3106	21	0.79	0.36- 1.70
HIV by number of paid sex partner (among those reported sexually active and reported paid sex), n = 1377				
≤ 2 partners	1255	61	5.9	3.4 - 10.0
> 2 partners	122	11	8.3	4.1 - 11.4

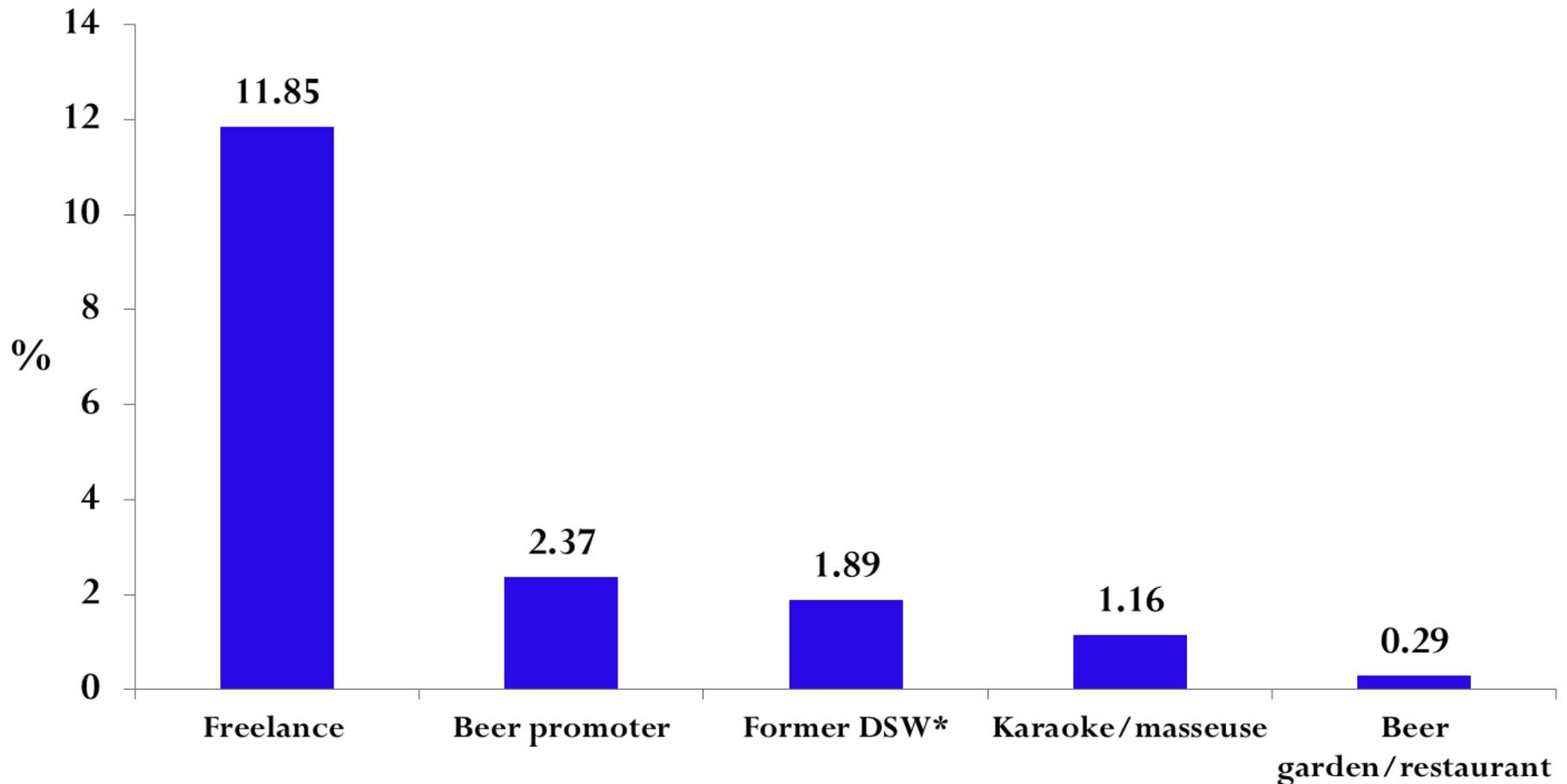
Geographical distribution of HIV prevalence among EW, IBBS 2016



HIV distribution by provinces (N = 3149)

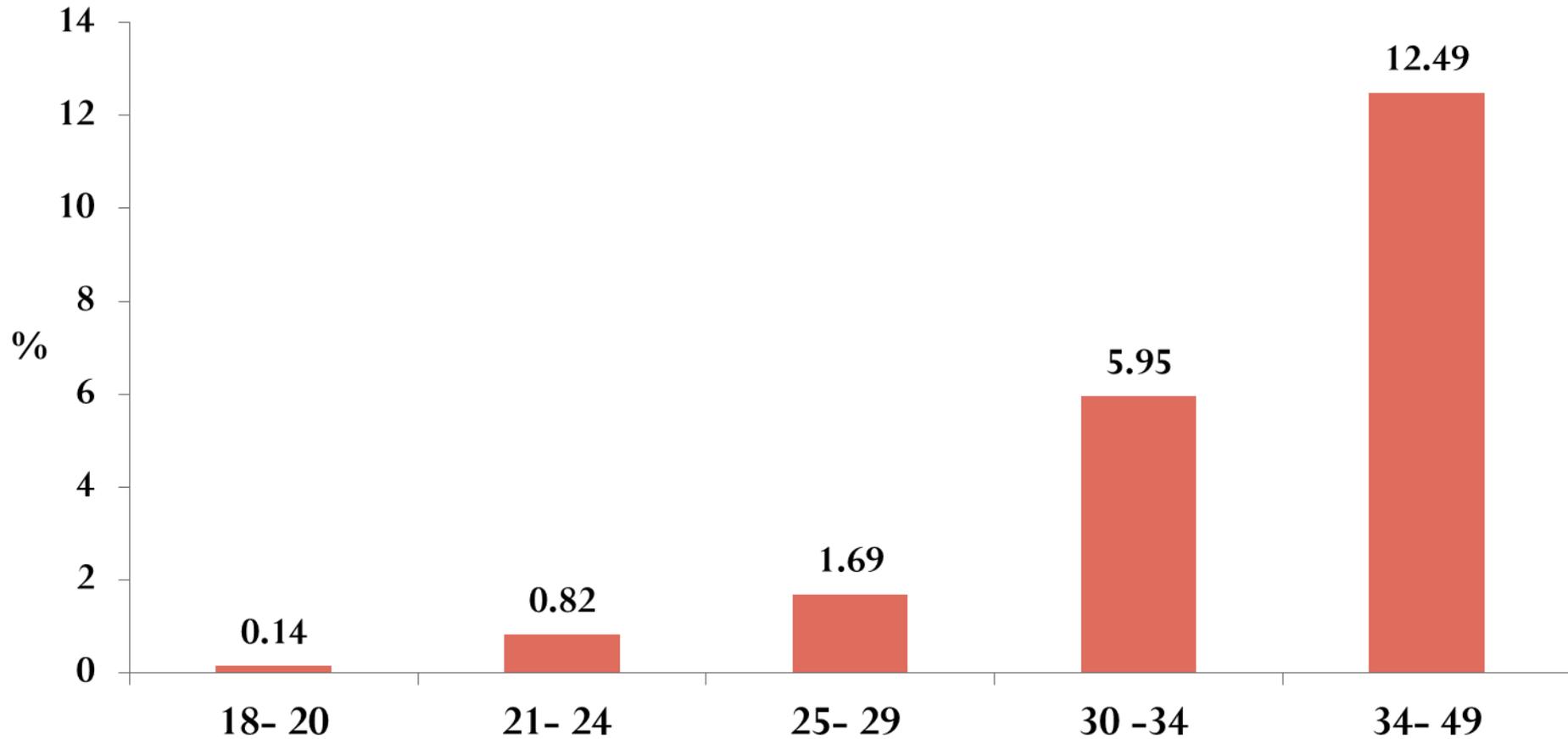


HIV prevalence by types of EW (N = 3105)



- Freelance = 351; DSW*: Brothel based sex workers = 92; Beer promoter = 101
- Karaoke = 2181; Beer garden = 380

HIV prevalence by age groups of EW (N = 3103)



Conclusions (1)

- 90% of EW are sexually active. Of those, they had the average 2 paid sex partners/ week.
- 22% of EW reported > 2 partners /day.
- About 60% of EW reported paid sex or exchange gifts for sex
- The consistent condom use with clients among EW remains high at 86-87%. But with sweethearts as always remains low and continue to decline (< 30%)

Conclusions (2)

- Outreach/peer education/NGO remain the key players in providing HIV related information and support to EWs
- About 18% of EW self reported STI related symptoms. Of those the most common symptom reported was abnormal discharge.
- Of those reported symptoms, the most places they visited are NGO STD clinics (40%) and public STI clinics (14%)
- Report of access to HIV testing, receiving test result and awareness about ART are remarkably high
- Also, high access to ART up to 87% for EW who were aware about the HIV status

Conclusions (3)

- **More than one third EW** reported induced abortion while working in current jobs, especially high abortion in the past 6 months (54%)
- Private clinics (40%) and buying drug from pharmacies (31%) were reported as main places to induced abortion.
- Up to 73% of EW reported using any FP. Male condoms (37%) and contraceptive pills are commonly reported.
- Around 70% of the women access to sexual and reproductive health services

Conclusions (4)

- **One in ten** of EW ever reported using drug.
- **Less than 10% of EW** commonly reported use ATS and Yama, Ice in the past 12 months.
- **1.3% of** the EW reported injecting drugs in the past 12 months.
- **One in four of EW** got medical injection at least one in the past year, in which > 90% reported using new syringes and needles
- The common places for their injections were mainly private health facilities such as clinic and private hospitals

Conclusion (5)

- One average, EW had 17 alcohol drinks (either a bottle, a can of beer, or a glass of wine); while at least 50% of the women had 14 drinks in the past week
- About 60% of EW drink alcohol everyday. And many are heavy drinkers with more than 95 drinks in past week (43.2%)
- Physical and sexual violence against EW from husband and sex partner reported < 5%

Conclusion (6)

- HIV prevalence among EW remains stable if comparing to HSS 2010, but there was a low prevalence of syphilis (<1%) among EW
- There are provincial variation; higher HIV prevalence were observed in PNP, BTB, BMC, KTH, PVH and SHV
- Prevalence among freelance/street based SW is the highest comparing other groups, followed by beer promoter group.
- When EW get older $EW \geq 30$ years, the higher prevalence was observed but the HIV prevalence among age ≤ 24 years old was low (<1%) especially the $EW \leq 20$ years (< 0.5%)

Acknowledgement

- This study would not be completed without the contribution from:
 - Provincial Health Department and Provincial AIDS Office (PAO) of 18 provinces and cities
 - All interviewers, health workers and provincial coordinator who helped us facilitate the data collection and administration supports
- Special thanks to all EW participants
- Special thanks to GF for financial support
- HIV/AIDS Flagship Project

**Thank You and Welcome
Questions and Comments
and Suggestions**