

2011 CAMBODIA STI SURVEY

Female Entertainment Workers

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NCHADS
US CDC



Background and rationale

- STIs are:
 - major causes of reproductive morbidity (pain, infertility) and mortality (HIV)
 - usually concentrated in Most at Risk Populations (MARPs), characterized by frequent, unprotected sexual intercourse
- Measuring risk behaviors, protective behaviors and prevalence of STI among MARPs allows for monitoring the impact of treatment & preventive interventions

Objectives

Primary objective:

- To determine national prevalence estimates of and related risk behaviors for *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, syphilis, HIV and Hepatitis B among Female Entertainment Workers.

Secondary objectives:

- To provide data for program planning and management of STI control and prevention programs for FEWs and their clients.
- To validate the current clinical algorithm for presumptive treatment of FEWs and explore alternative algorithms for improved sensitivity and specificity (results are not presented at this time).

METHODS

Survey design

- ▶ A cross-sectional survey of 17 provinces
- ▶ Participation voluntary and anonymous
- ▶ STI lab test results linked to self-reported behaviors
- ▶ Survey population
 - Female entertainment workers (FEWs) *instead of brothel based female sex workers as in 2005*
 - “former brothel” FEWs
 - beer promoters
 - karaoke workers
 - The eligibility criteria for inclusion in the survey are:
 - All female entertainment workers in the entertainment establishment (EE)
 - Age 18 years or older (*15+ years in the 2005 survey*)
 - Able to speak Khmer

2011 Survey included the 10 previous provinces plus 7 more

	Provinces	Years	New 2011 Provinces	
1	Phnom Penh	96, 01, 05	11	Kampong Thom
2	Sihanoukville	96, 01, 05	12	Pailin
3	Battambang	96, 01, 05	13	Odor Meanchey
4	Bantey Meanchey	01, 05	14	Kampong Chhnang
5	Kampong Cham	01, 05	15	Takeo
6	Pursat	01	16	Kampong Speu
7	Kandal	01	17	Preah Vihear
8	Siem Reap	05		
9	Koh Kong	05		
10	Prey Veng	05		

Sample Size FEW

	Sample size	Provinces	Phnom Penh	Other provinces
Former BB FEW	1073	17	129	59
FEW other	1605	17	181	89
TOTAL SAMPLE SIZE	2678	17	310	148

Sampling strategy

- Stratified two-stage cluster sampling design
- PAO/NGO of the survey provinces listed all Entertainment Establishments (EE) and number of FEWs in each EE.
- Lists served as sampling frames:
 1. Former brothel EE
 2. Other EE (beer promoters, Karaoke)
- Take all former brothel EE and random sample other EE until Provincial sample size reached

Survey procedures

- Field work August to December 2011
- All FEW from selected venues were invited to STI clinic
- Verbal informed consent obtained and witnessed
- Interviews: same sex interviewer conducted face to face using questionnaire
 - socio-demographic information
 - information on sexual behaviors
 - STI/ HIV risk behaviors
 - STI/ HIV history
 - STI/ HIV health seeking behaviors

Laboratory Testing of specimens

STI	Specimen	Test
<i>Neisseria gonorrhea</i>	Self administered vaginal swab	Nucleic acid amplification test (<i>in 2005, Becton Dickinson ProbeTec</i>)
<i>Chlamydia trachomatis</i>		Nucleic acid amplification test (in 2011, real time PCR with Abbott m2000 GC CT)
<i>Treponema Pallidum</i>	Blood	Rapid test (SD Bioline); Confirm + with RPR
HIV		Rapid Test (Determine HIV 1/ 2), Confirm + with Stat-Pak
Hepatitis B		Hepatitis B Surface Antigen, core Antibody, surface Antibody (Biorad Monolisa Ultra)

Clinical procedures (1)

Participants received:

- standard four STI risk assessment questions
 - considered positive if the answer is “yes” to ≥ 2 .
- speculum examination other clinic signs of infection
 - endocervical swab specimen collected for microscopy examination. (+ if > 10 WBC/ hpf)
 - vaginal swab (if discharge present) and microscopy
- Same day treatment by medical doctor per STI guidelines using tests results available

Clinical procedures (2)

- SD Bioline Rapid test for syphilis; if positive – RPR
 - Treatment with PCN (same day) if both tests positive
- HIV
 - Return of test results (same day) by counselor
 - Referral to OI/ ART if positive
- Hepatitis B surface antigen, GC, CT
 - Tested in laboratory at later time
 - Participant will need to return for results in 2 weeks and show PIN

Follow up

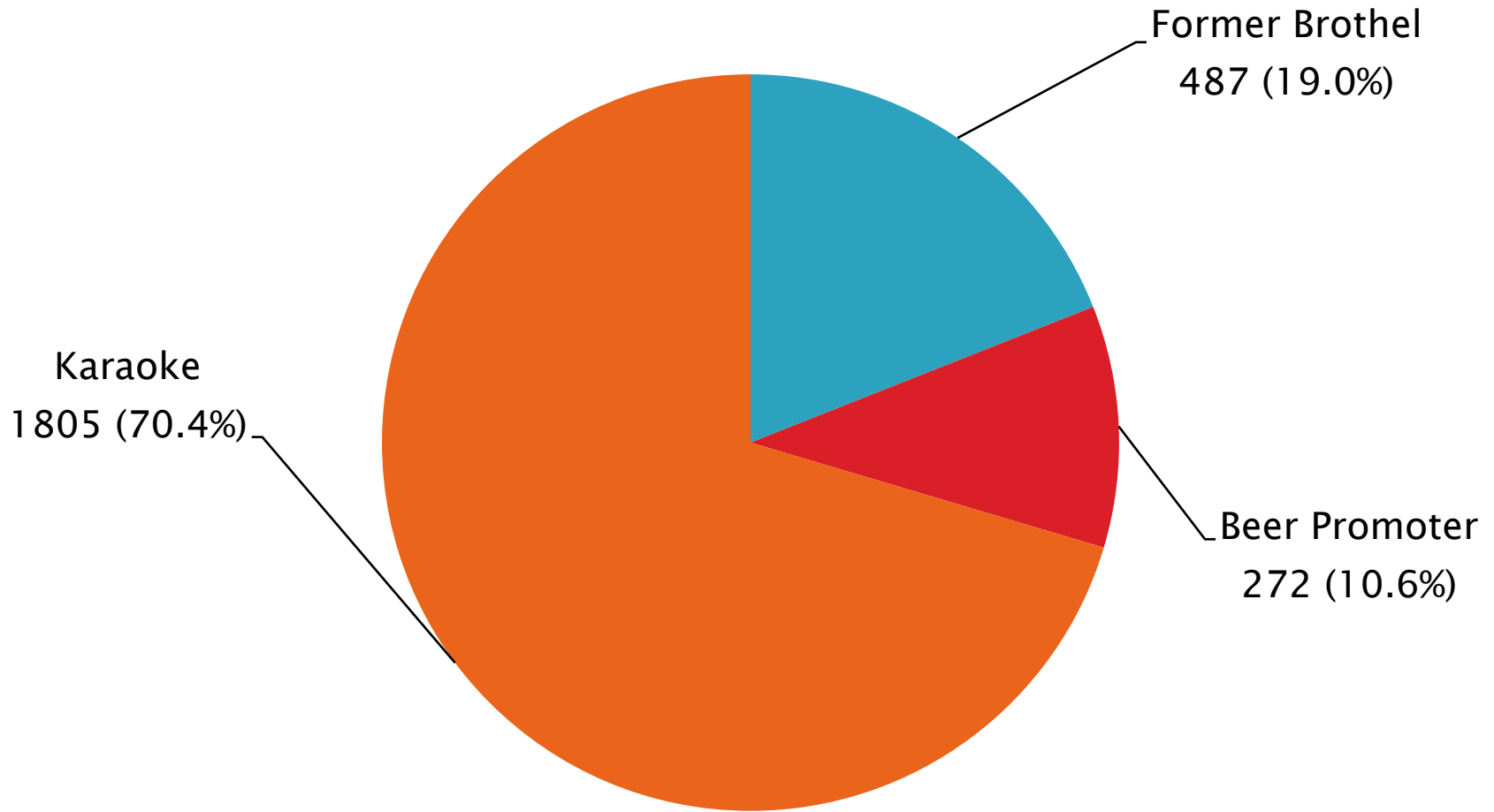
- Participant will received card with personal identification number (PIN) and map
- Follow-up in 2 weeks for results of:
 - Hepatitis B
 - GC and Chlamydia by real time PCR
- Participants with infections were counseled and requested to refer their sexual partners to the STI clinic for treatment
- They were provided a condom demonstration and free condoms.

Data Entry, Processing and Analysis

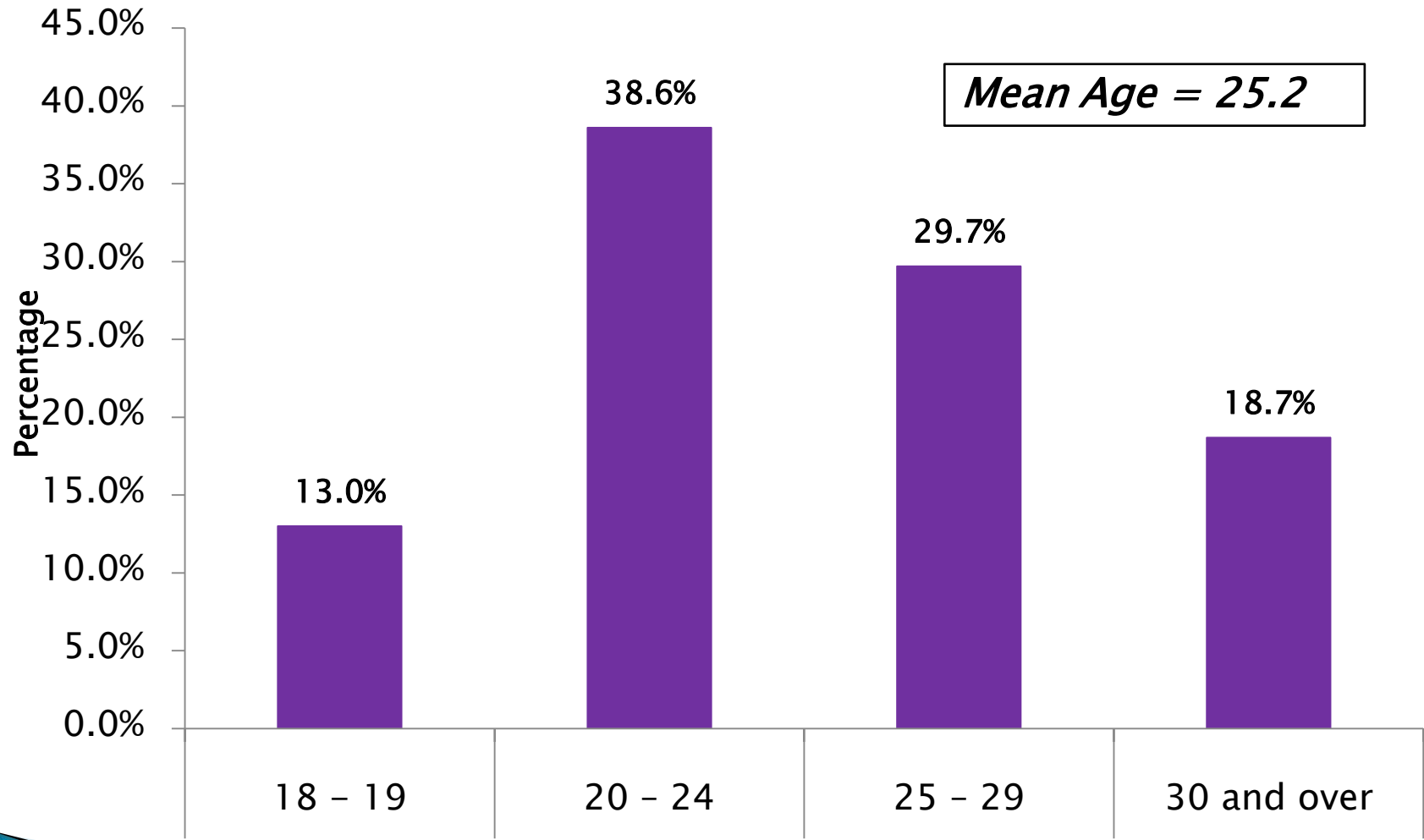
- Questionnaires and lab forms transported at least twice a week from the field with the specimens and stored in NCHADS.
- Laboratory data forms collected on a periodic basis from the survey laboratories and brought to NCHADS for data entry.
- ▶ Forms entered electronically using Epi Data. Double data entry performed by two different people. Cross checking of the two entered datasets performed.
- Data analyzed with STATA 11, which takes into account cluster sampling when computing standard errors and weight.

Results

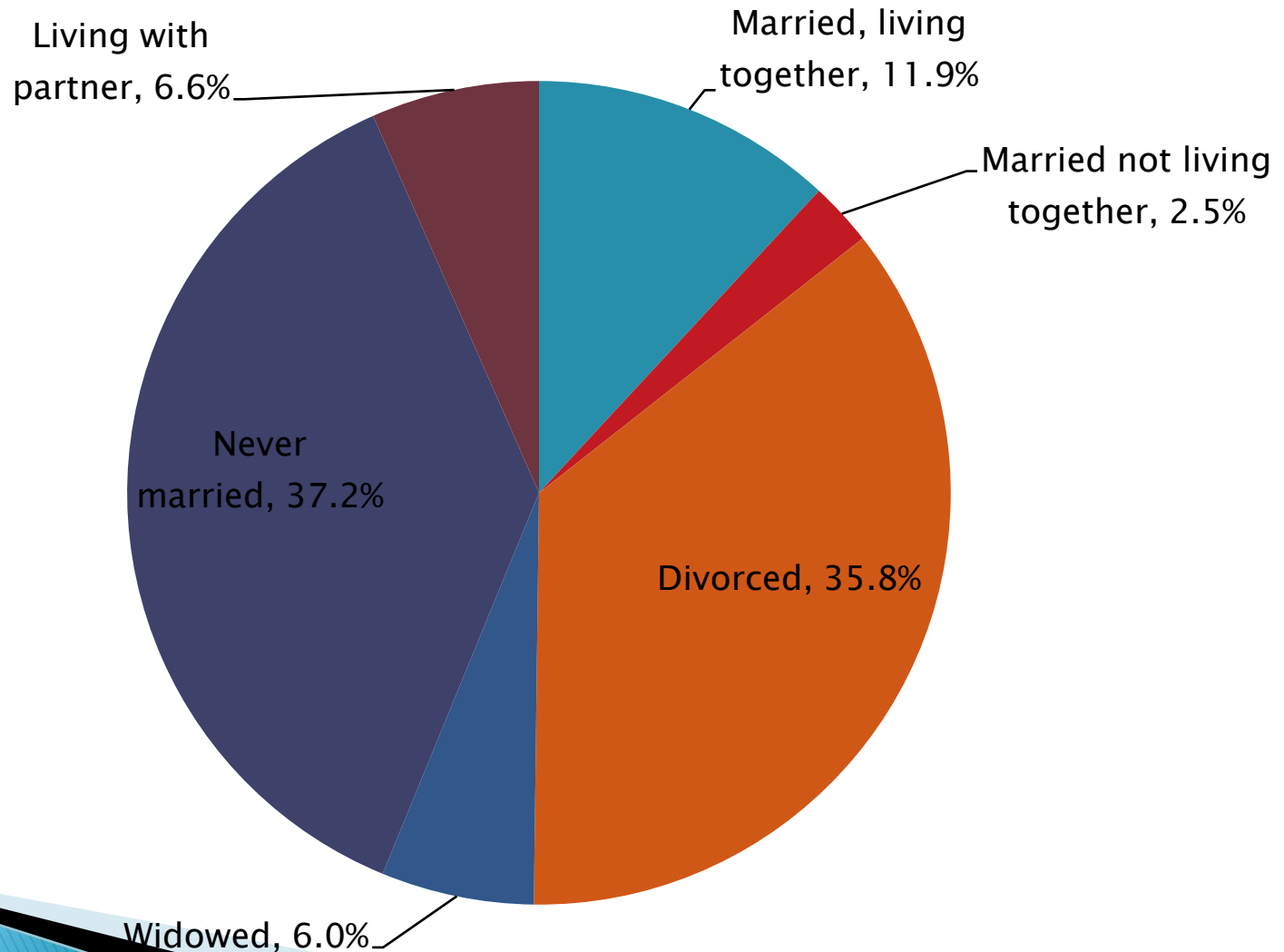
FEW Type



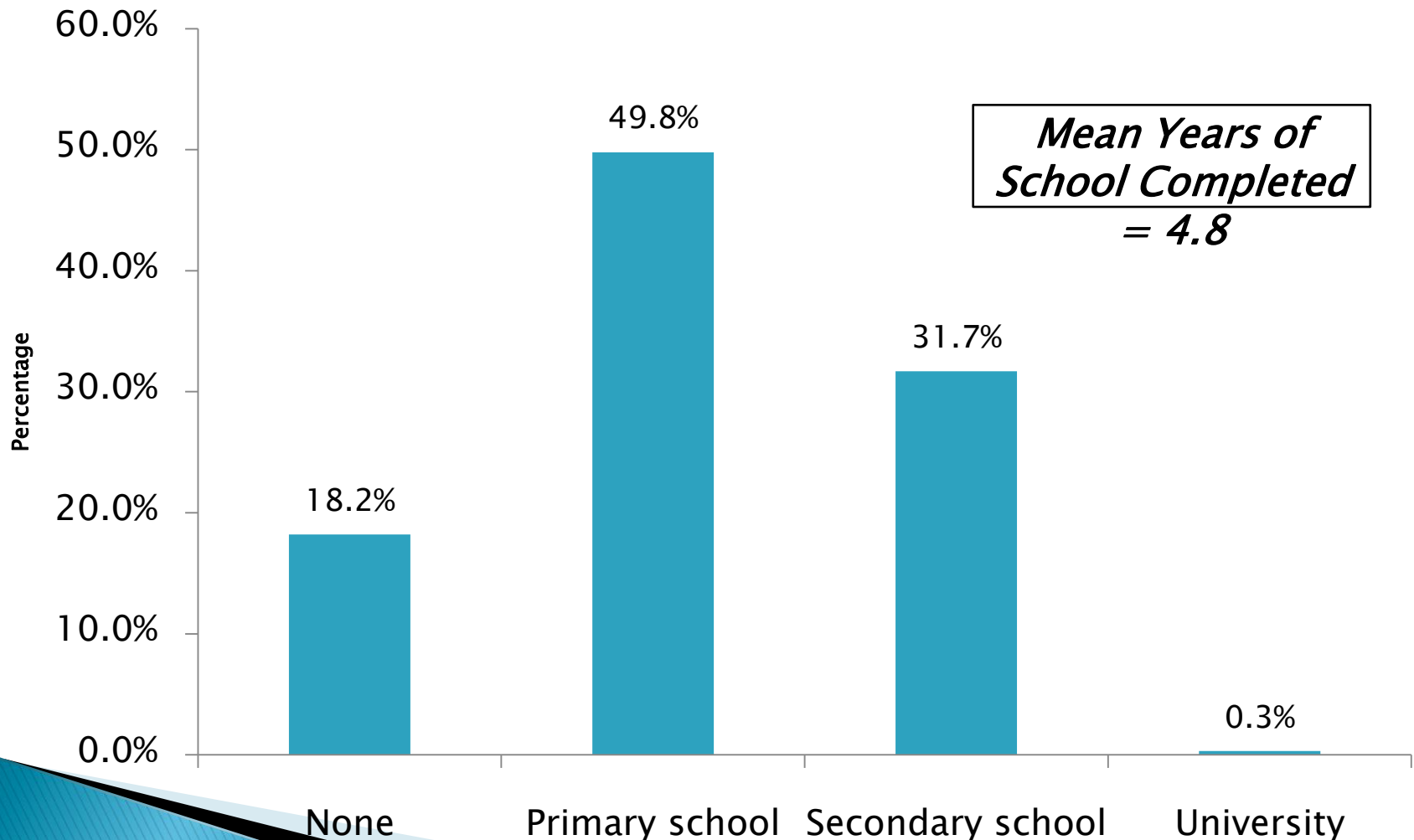
Demographic Characteristics: Age



Demographic Characteristics: Marital Status



Demographic Characteristics: Education Level



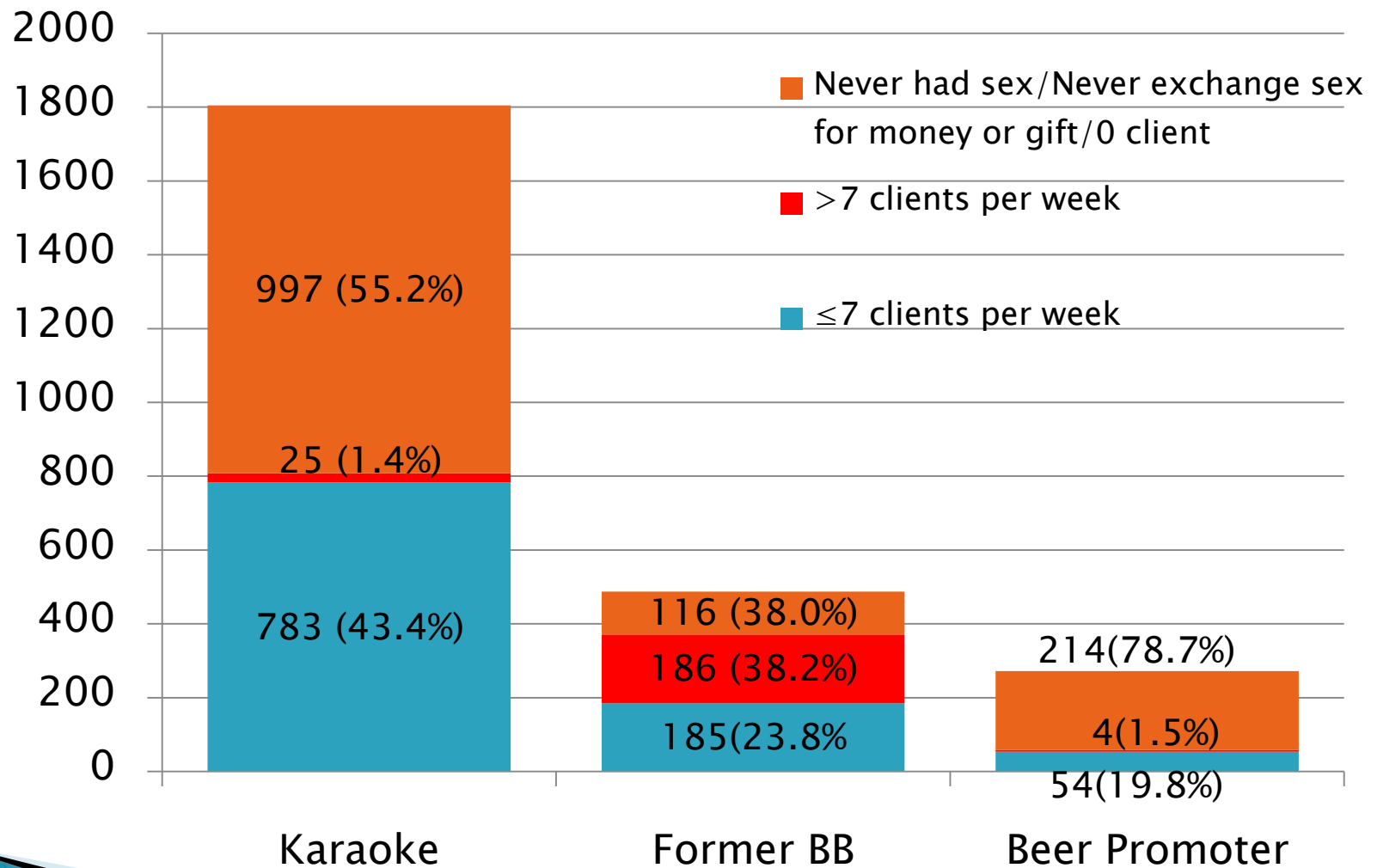
FEW Mobility

Work as other type of job before this one? (N=2564)	%
Dancer at night club	0.5
Massage	7.1
Beer promotion girl	4.4
Karaoke	13.5
Worked at beer garden	2.6
Sex worker at brothel	1.2
Garment worker	25.8
Worked at a restaurant	12.5
Other	30.9
None of above	13.2

FEW Fertility and Abortion

Since working as EW, Number of times pregnant (N=2564)	%
None	42.8
1	19.7
2	10.2
3+	18.1
While working as an EW, how many abortions have had? (N=2564)	
None	12.6
1	18.3
2	9.9
3+	7.2
Don't remember	0.4
How many months ago was last abortion (N=2564)	
1-12 months	28.3
>13 months	3.6
Don't remember months	3.9

FEW Type by Number of Clients



Number and type of sexual partners

Boyfriend/ Sweetheart

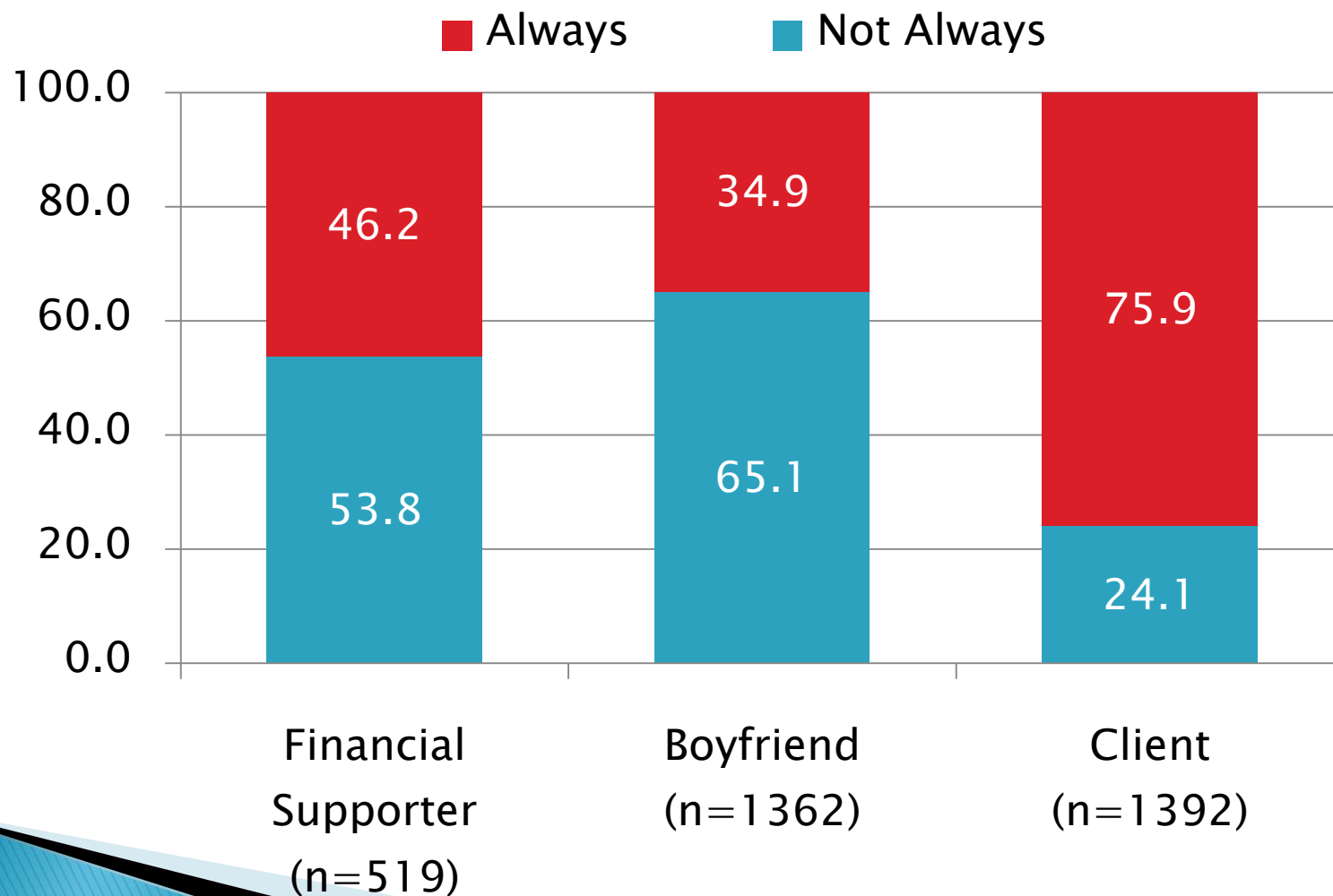
In the past 12 months, how many boyfriends/sweethearts (N=2558)	%
None	42.1
1	38.2
2+	19.7
In the past 12 months, have sex with boyfriends/sweetheart (N=1543)	%
Yes	87.0
No	13.0
In the past month, how many times have sex with boyfriend/sweetheart (n=1369)	%
None	6.8
1- 7 times	82.4
8-30 times	9.3
31-65 times	0.5
Don't know	1.1

Number and type of sexual partners

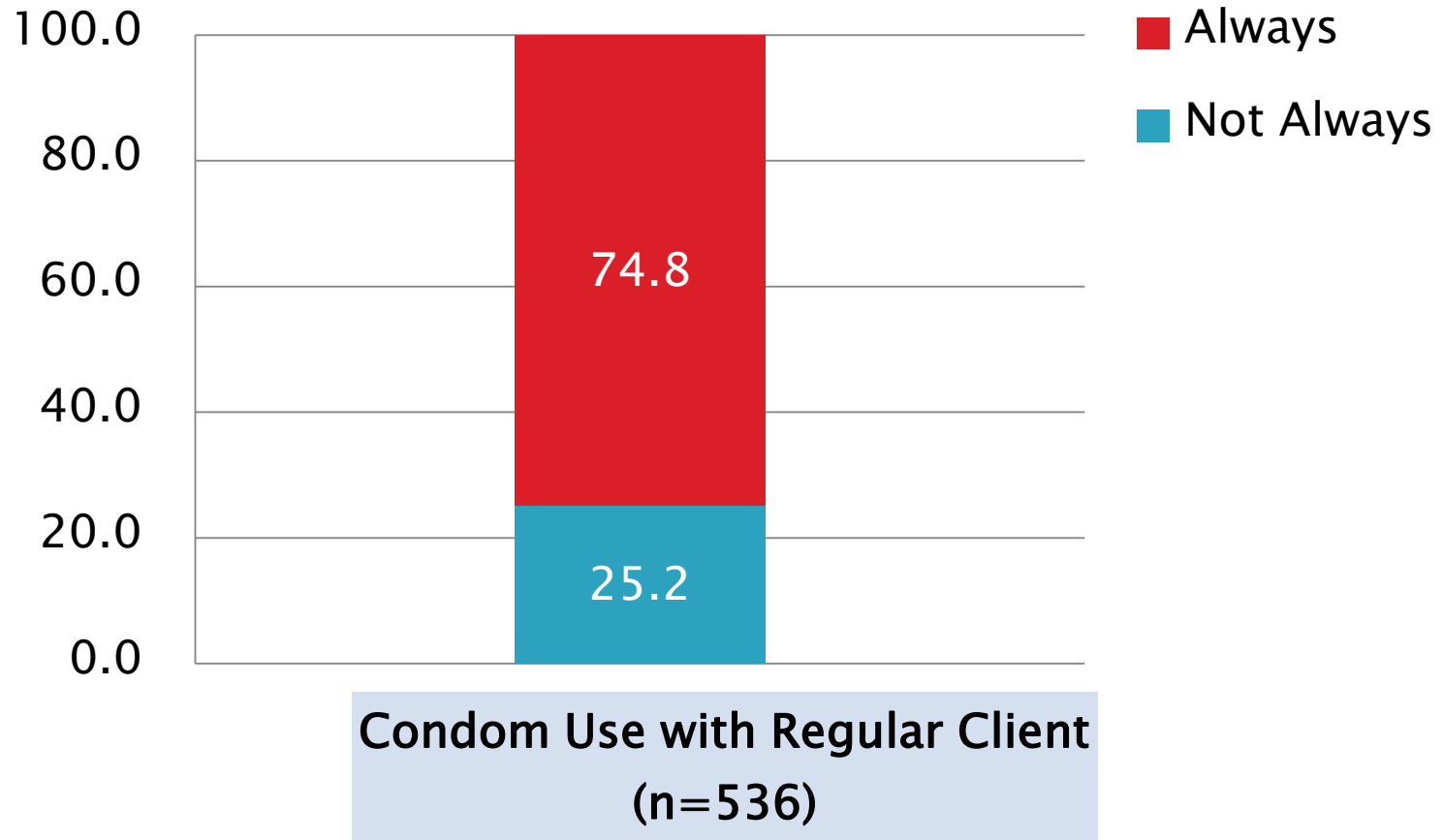
Transactional partners

In the past 12 months, ever received gifts or money in exchange for sex? (N=2564)			%
Never had sex			12.3
Yes			41.1
No			46.6
How many clients have sex with last working day (N=1476)			
None			29.4
1			53.5
2			7.8
3+			8.2
Don't know			1.1
Currently, do you have regular sex clients (sleeping with you more than five times) (N=1476)			
Yes			36.4
No			63.5
No response			0.1
Sex with financial supporter (N=2564)			
Yes			16.4
No			31.8
No financial supporter			51.8

Percentage of Condom Use in Last Three Months By Partner Type

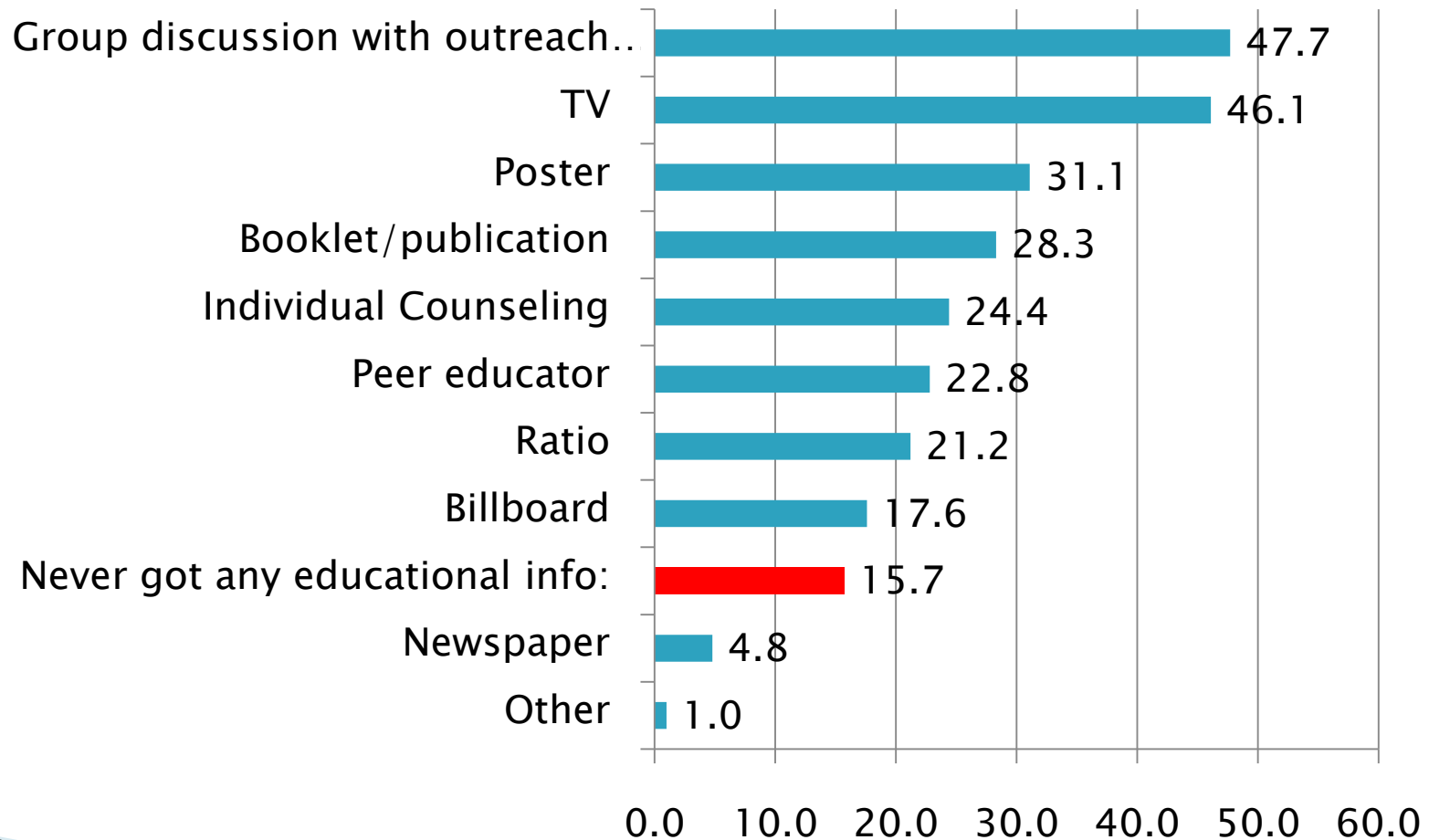


Percentage of Condom Use in Last Month With **Regular Client***



* Regular Client: sleeping with more than five times

Educational Information Received about HIV/AIDs and STIs in the past 3 months



Drug Use

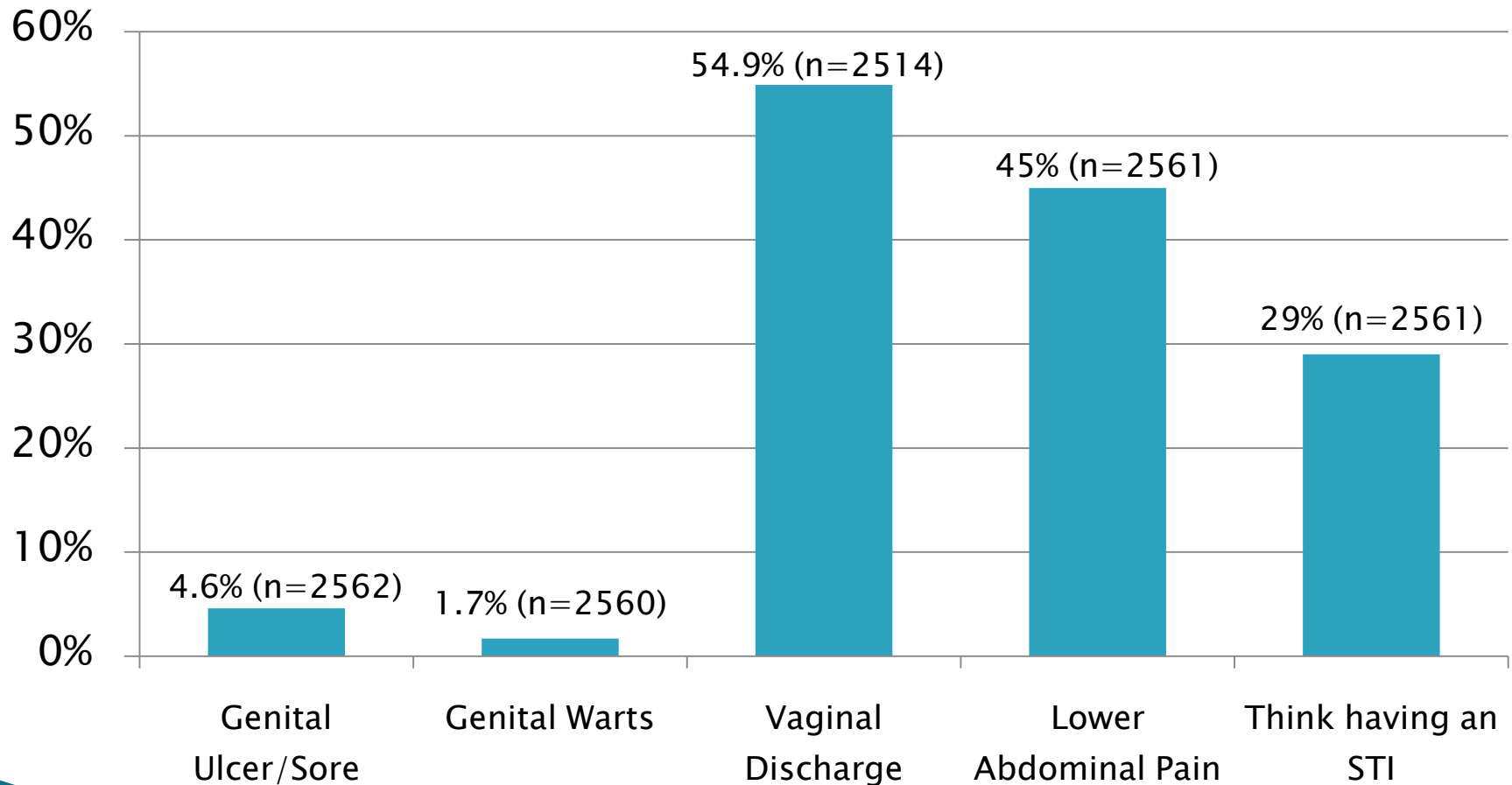
	%
Have ever used drug (n=2564)	4.5
If yes to drug use, type of drug (n=145)	
Heroin:	9.3
Amphetamine (Ice, Yama):	80.2
Ecstasy:	0.0
Sleep Booster (Valium, Diazepam):	0.0
Glue:	0.0
Marijuana:	0.2
Other:	1.9
For the past 12 months, have Injected Drug (n=145)	1.0

Alcohol use

In the past week,

How often did you drink alcohol while working (N=2560)	%
None	25.0
1–3 days	20.1
4–6 days	6.9
Everyday	48.0
How many drinks per week (N=2136)	
None	7.0
1–7 cans	24.8
8–24 cans	15.7
25–95 cans	16.0
≥ 96 cans	36.3

STI symptoms, in past 12 months



HIV Testing

	%
Know where can receive an HIV test (N=2562)	87.3
Had blood test for HIV in the past 12 months (N=2564)	62.2
Where did you have the last blood test for HIV (N=1680)	
Private clinic/Lab	6.5
Public hospital	15.7
VCCT (Public)	39.2
VCCT (NGO)	35.8
Pharmacy	0.1
Other	2.6
Received the result of HIV test (N=1678)	96.2
Willing to tell result of HIV test (N=1562)	93.0
HIV test result self report (N=1402)	
HIV positive	2.6
Intermediate	1.0
HIV negative	96.4

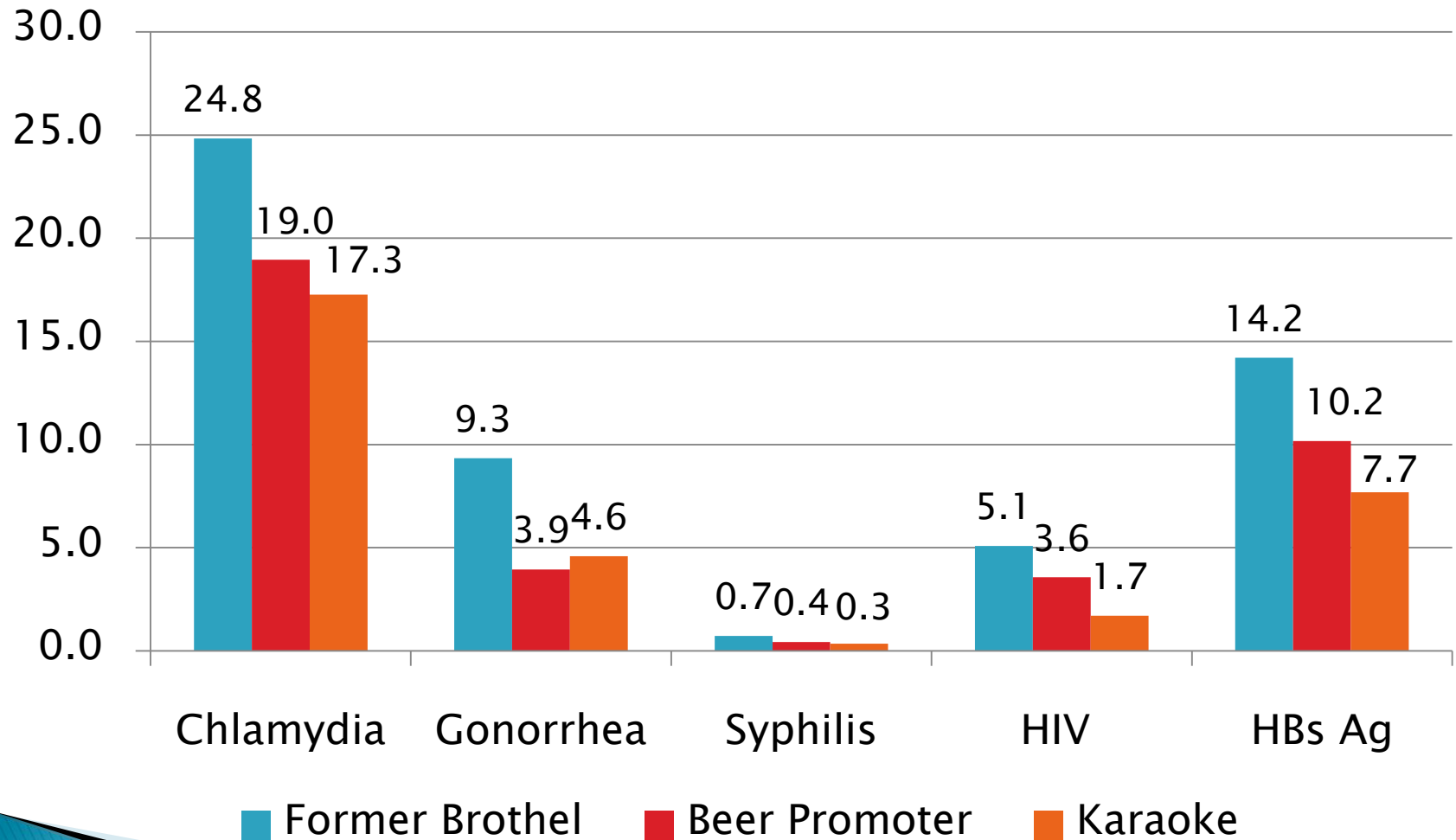
Sexual health check

Number Visits to a clinic for SH check-up, for the past 12 months (N=2558)		%
None		44.5
1 –2 visits		21.2
3–4 visits		19.5
5–6 visits		6.8
7+ visits		8.1
Type of clinic Visited (N=1 593)		
Family Health Clinic (NCHADS)		38.3
Other government/MoH clinic		19.4
NGO clinic (RHAC,MSI,MEC,PSF)		26.1
NGO clinic run by other Organization		8.8
Private clinic		5.1
Don't know which organization		0.4
Other type of clinic		2.0

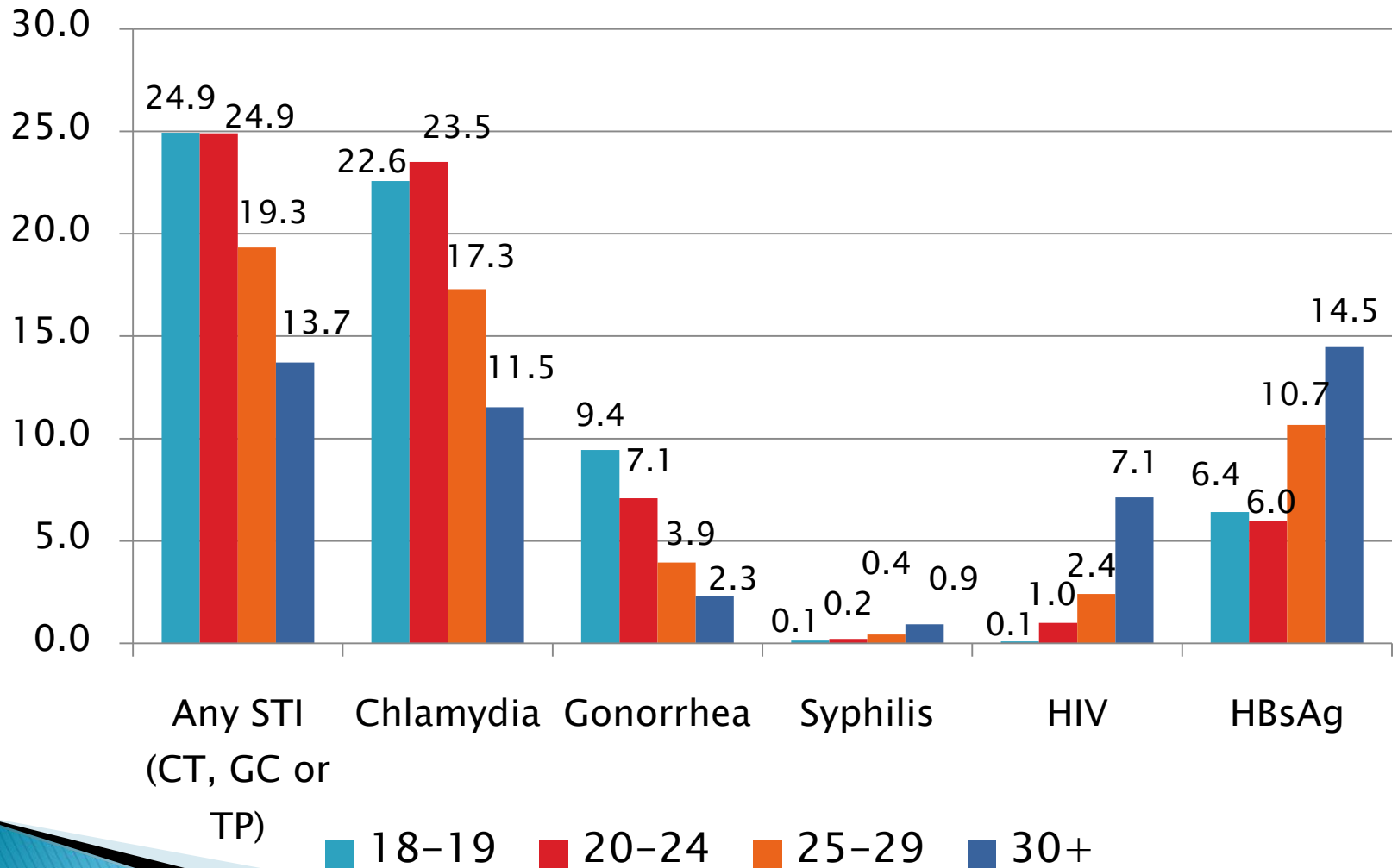
Lab Results (Overall)

Test	# tested	% Positive
Chlamydia	2503	18.9
Gonorrhea	2523	5.3
Syphilis Active	2562	0.4
Any STI (CT, GC or TP)	2564	20.8
HIV	2561	2.6
Hepatitis B Sag	2559	9.3
Any Test Positive	2564	29.6

Distribution (%) of STI by EW Type

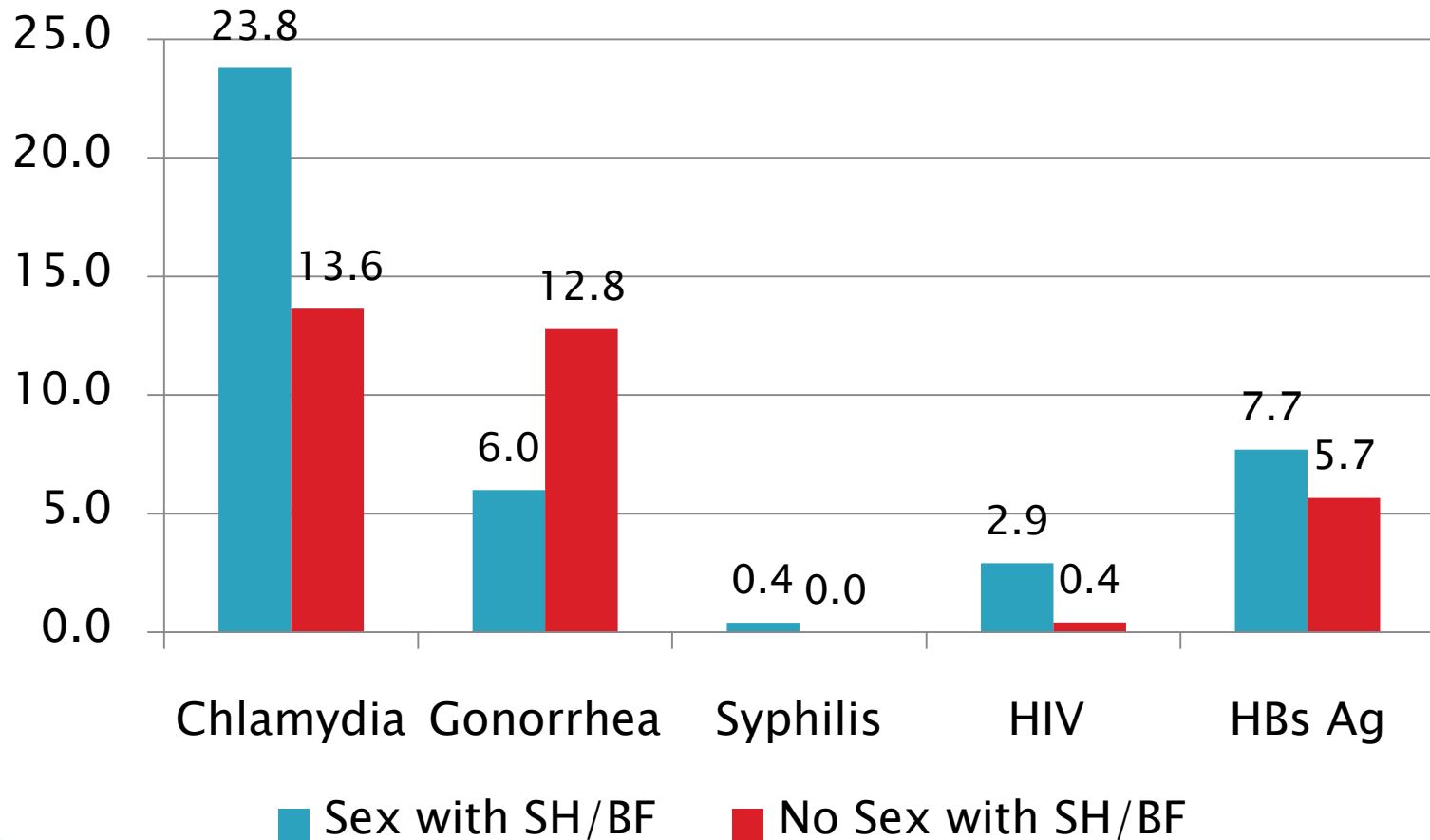


Prevalence of STI by Age Group



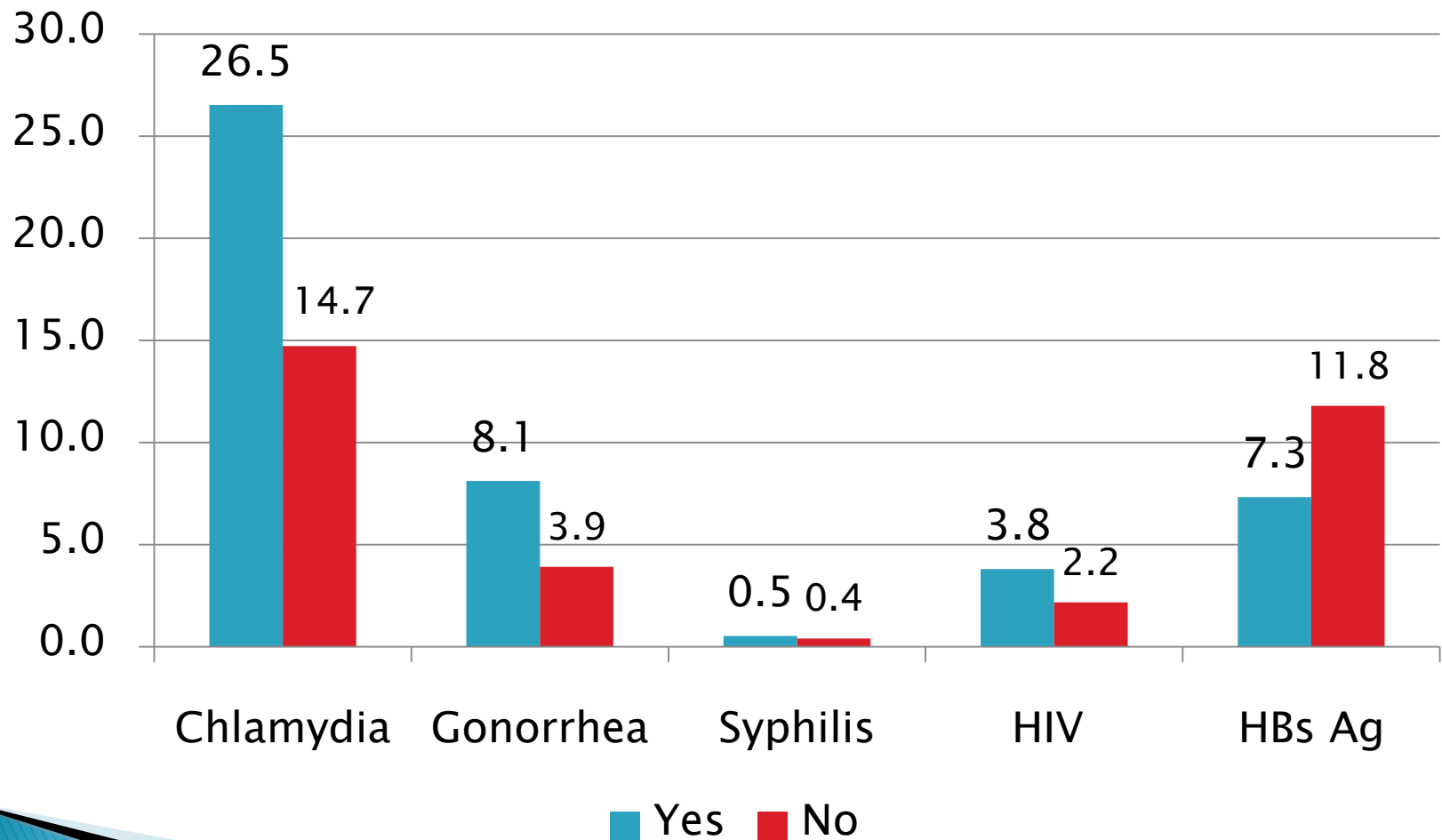
Distribution (%) of STI by Sex with Sweetheart/ Boyfriend, Past 12 months

(Sex with BF=1,375, No Sex with BF=168)

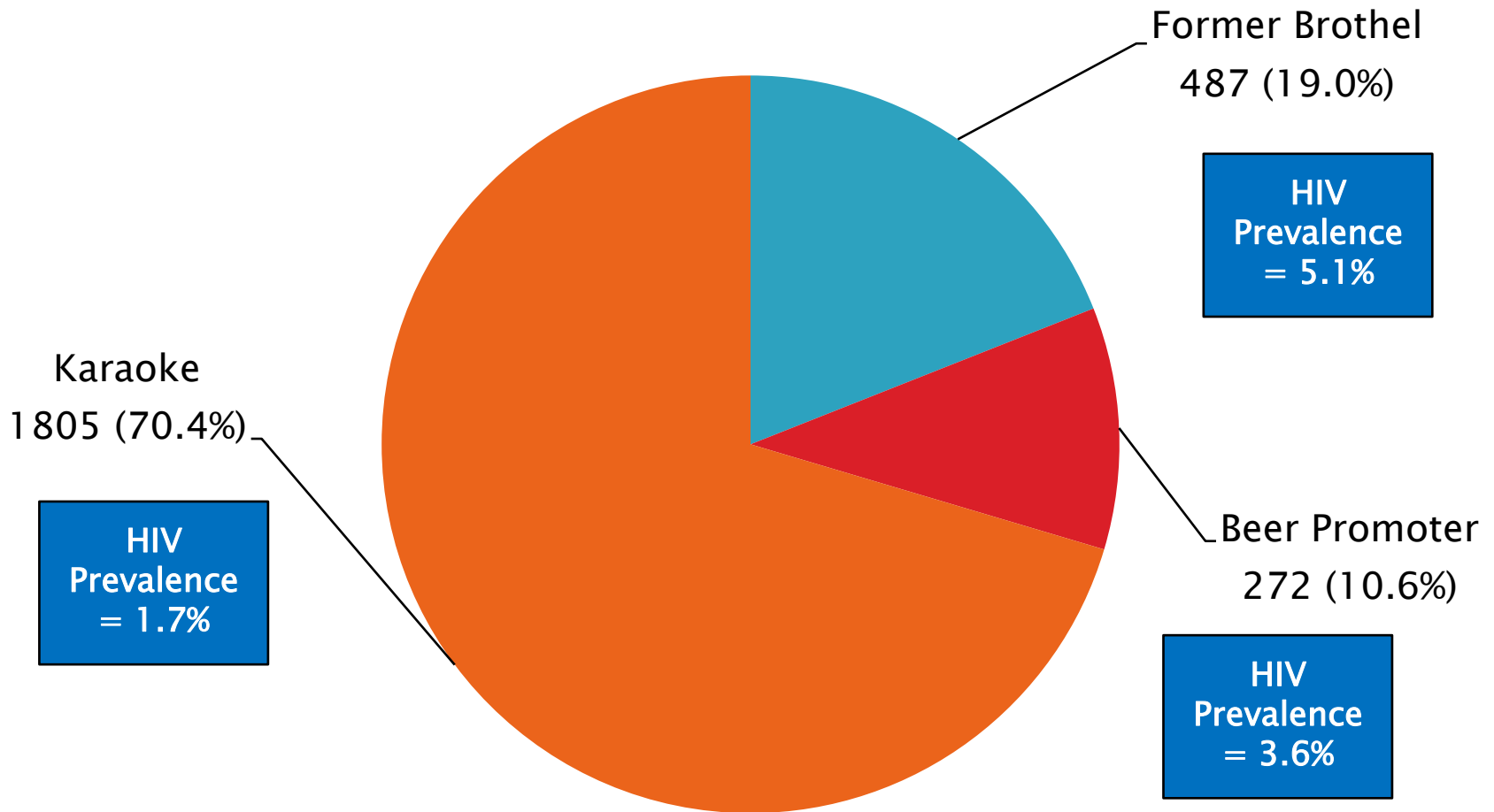


Distribution (%) of STI by Exchange Sex for Money, Past 12 months

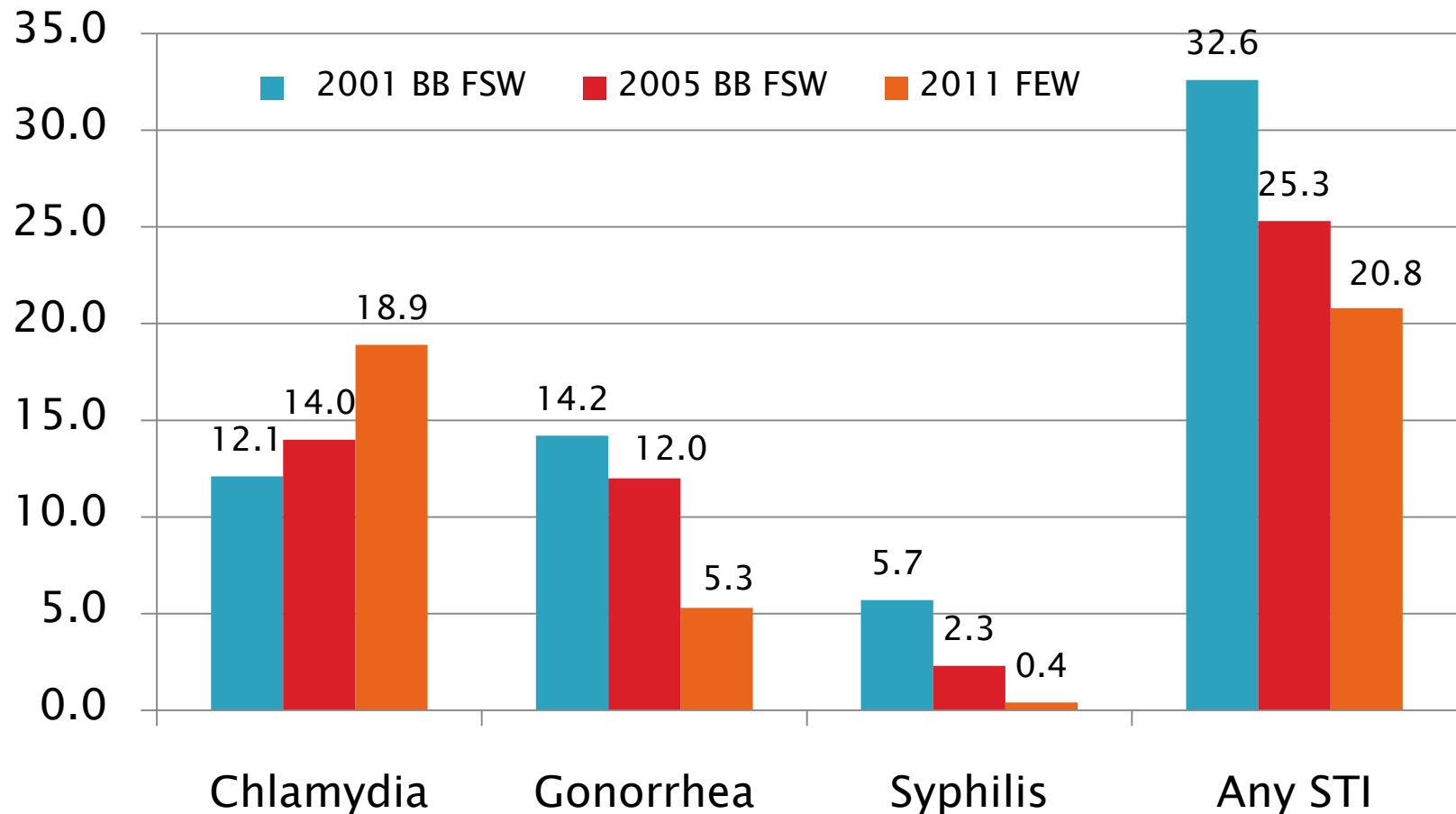
(Yes, n=1,478; No, n=761)



FEW Type



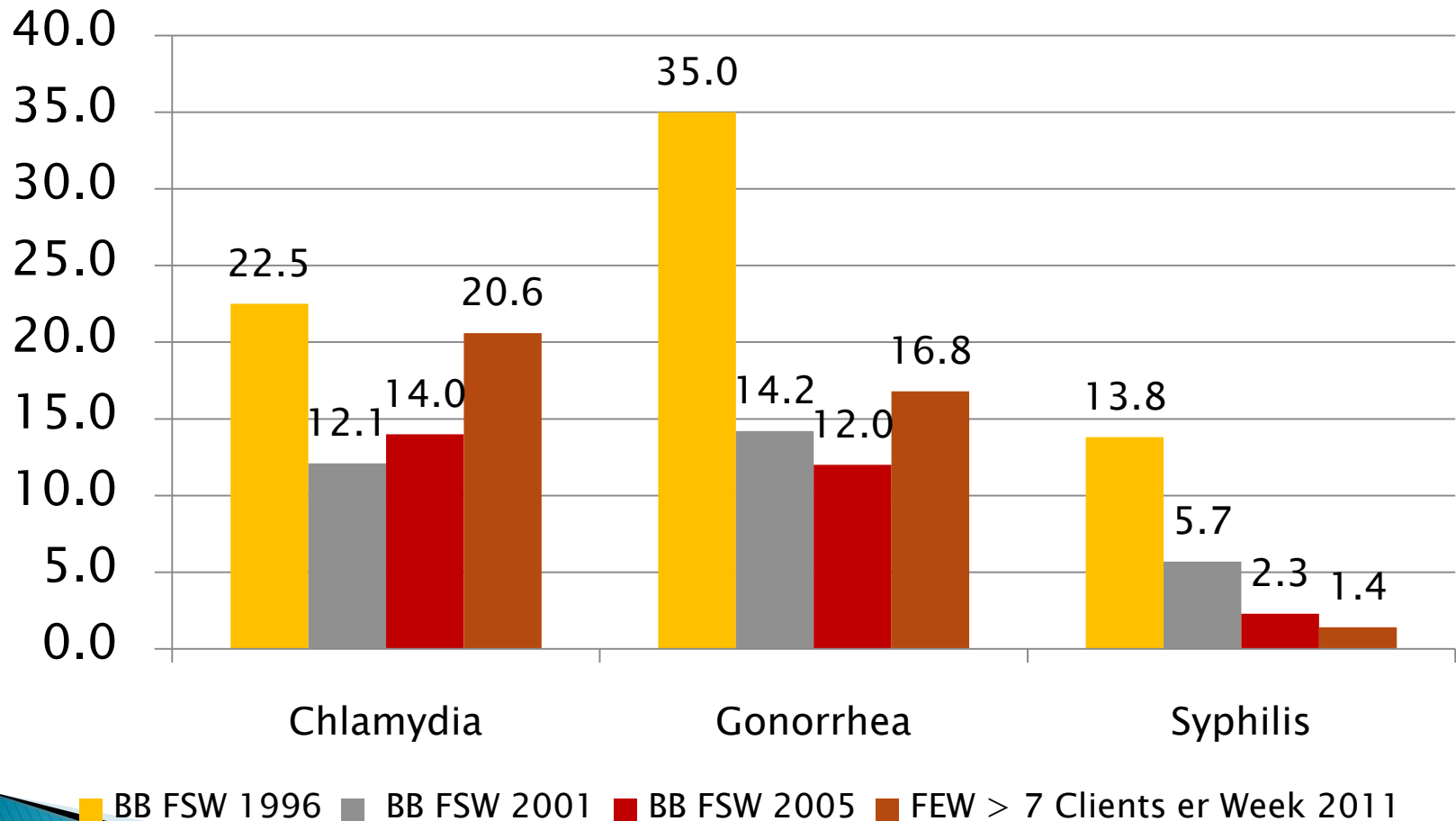
Comparison STI prevalence by year of Survey



*Direct comparison difficult: different population, different lab testing methods, different sampling approach, different weight

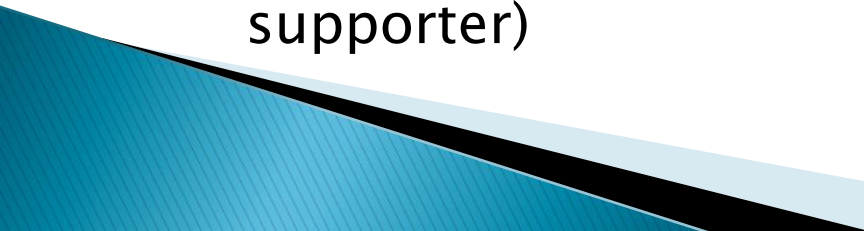
STI Prevalence by Survey, Year

BB FSW, FEW with >7 clients/ week



Conclusion

Conclusions (1)

- ▶ Female Entertainment Workers as a group had high prevalence of:
 - STIs especially Chlamydia
 - HIV (trend declining from 1998 peak)
 - Pregnancy and abortion
 - High risk behaviors (sex with multiple partners)
 - ▶ FEW are a mixed group
 - some individuals not engaged in risk (8% report never having sex)
 - most have no or few clients per week
 - self report of Intravenous Drug Use is very low
 - Multiple different types of sexual partners (husband, client, boyfriend, regular client, financial supporter)
- 

Conclusions (2)

- ▶ Consistent condom use with:
 - Clients high, but declining
 - Boyfriends/ sweethearts remains low
- ▶ Abortion rate is worrisome.
- ▶ Chlamydia and gonorrhea see high prevalence among younger age groups while syphilis, HIV and HBs are high among older age groups.
- ▶ FEW who had >7 clients per week are more at risk to get HIV, Syphilis and Gonorrhea
- ▶ “Former Brothel” Entertainment Establishments were difficult to locate in many provinces or define clearly
- ▶ Some sites had a mixture of FEW types – for example Karaoke establishments with FSW

Recommendation (1)

- ▶ Mobility from garment factory is high, shall outreach program expanded to this group?
- ▶ More attention should be on those with sweetheart, boyfriend or financial supporter.
- ▶ Presumptive treatment for chlamydia should be in place.
- ▶ Interventions to maintain high percentage of consistent condom use, and increase condom use among sweetheart, boyfriend and financial supporter.
- ▶ Available and accessible safe abortion services.
- ▶ Partner tracking for STI testing and treatment.

Acknowledgement

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THANK YOU