

# Meeting sex partners online is associated with HIV and syphilis infection among men who have sex with men and transgender women in Lima, Peru

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## BACKGROUND

### Epidemiology:

- HIV and syphilis are concentrated epidemics among MSM and TW in Peru.
- Overall HIV population prevalence is <1% in Peru, but is estimated to be 12.4% in MSM/TW<sup>1</sup>
- Syphilis prevalence is 13.4-21.6% in MSM/TW<sup>2,3</sup>
- Syphilis in MSM/TW has been found to be predictive of HIV seroconversion in recent PrEP studies<sup>4</sup>
- High rates of HIV serostatus unawareness in MSM/TW
- High rates of syphilis reinfection, as high as 42.7% in one year<sup>5</sup>

### Context:

- Diagnosis currently relies on a syndromic approach, and requires patient to initiate engagement with health care system
- Understanding places that people meet sexual partners will help target outreach to control and treat HIV and syphilis.

## OBJECTIVE

To determine if certain venues where Peruvian MSM/ TW report meeting sexual partners are associated with acquisition of syphilis and HIV.

## METHODS

### Study design:

- 401 high-risk adult MSM and TW recruited from a public STI clinic in Callao (Alberto Barton) and a gay men's community center (Epicentro)



Alberto Barton



Epicentro

- Baseline and quarterly follow-up included demographic, social, behavioral survey and testing for HIV, syphilis, gonorrhea, and chlamydia.
- 318.8 person-years of follow up

### Inclusion criteria (≥3):

- Positive syphilis test in the past 2 years
- HIV infection
- Any syndromic ulcer-related STI at baseline
- Diagnosed with an STI in the past 6 months
- >5 years of sexual activity
- >5 sex partners in the past 3 months
- >5 occurrences of unprotected anal sex in past 6 mo.

### Measures:

**Outcome:** Recent HIV (acquired ≤6 months before enrollment or during study) or syphilis (baseline RPR >1:8 or acquired during study)

### Last 3 venues used to meet sex partners in last 3 mo.:

Club/disco, sauna, internet, hotel

### Covariates:

Age, transgender identity, # of male sex partners in last 3 mo., anal sex role, unprotected anal sex in last 3 mo., previous syphilis, baseline anal gonorrhea/chlamydia

### Statistical analysis:

Multivariate Poisson regression with robust standard errors was used to estimate the association between venues and recent HIV and syphilis using STATA 14.0.

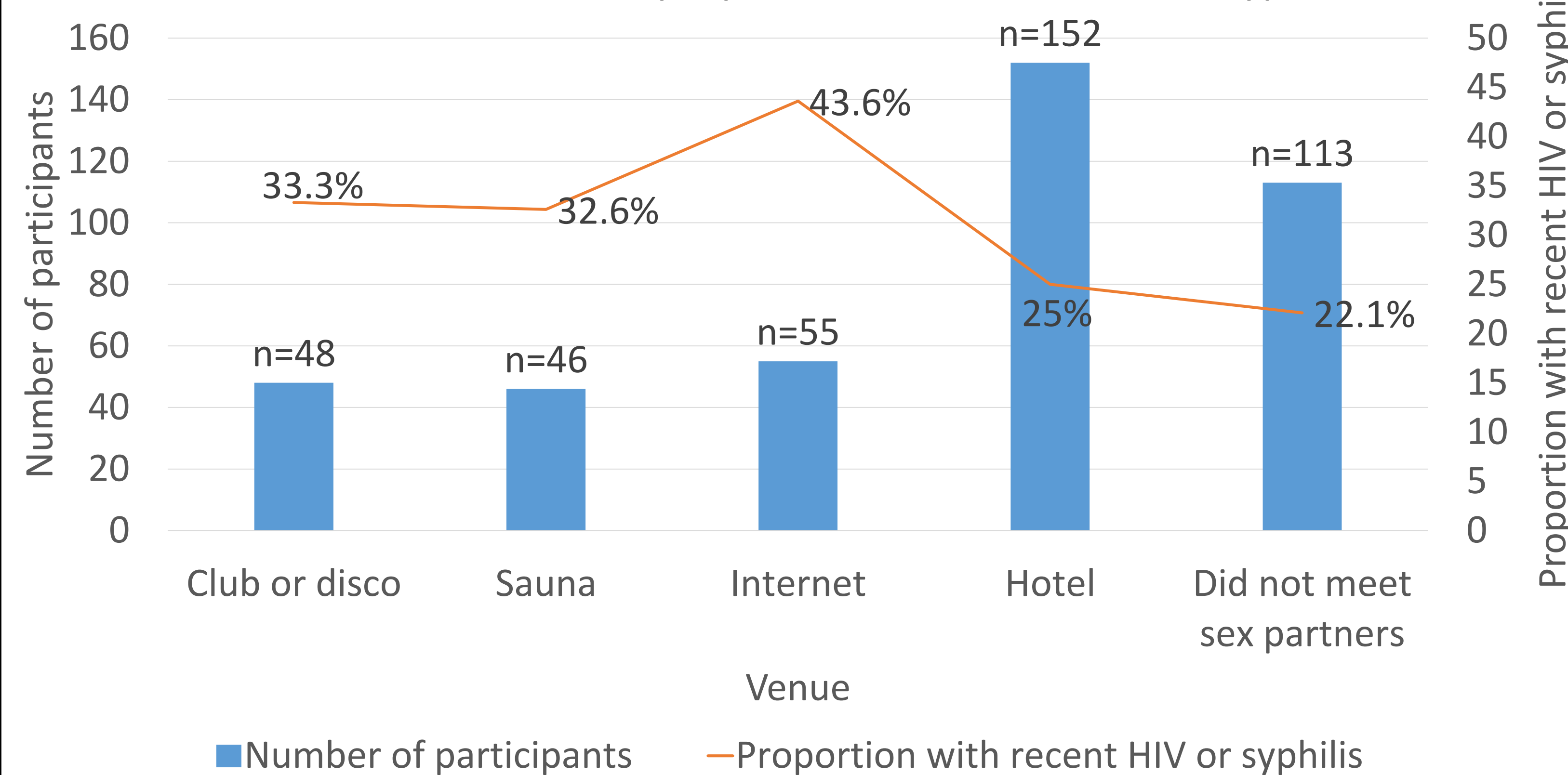
## RESULTS

Table 1. Characteristics associated with recent HIV or syphilis (n=401)

Characteristic	Proportion with recent HIV or syphilis n/N (%)	Bivariate PR (CI)	Multivariate PR (CI)
Age		0.98 (0.96-1.00)	0.99 (0.97-1.01)
18-25	41/123 (33.3%)		
26-30	19/84 (22.6%)		
31-35	19/65 (29.2%)		
36+	26/129 (20.2%)		
Transgender			
No	88/312 (28.2%)	ref	ref
Yes	17/89 (19.1%)	0.68 (0.43-1.08)	0.62 (0.37-1.06)
# of male sex partners			
0-2	34/120 (28.3%)	ref	ref
3-5	32/117 (27.4%)	0.97 (0.64-1.46)	0.90 (0.59-1.37)
6-10	19/66 (28.8%)	1.01 (0.63-1.63)	0.95 (0.57-1.58)
11+	20/98 (20.4%)	0.72 (0.44-1.17)	0.71 (0.42-1.19)
Anal sex role			
Insertive	9/89 (10.1%)	ref	ref
Receptive	39/128 (30.5%)	3.01 (1.54-5.91)	3.36 (1.68-6.74)
Versatile	57/184 (31.0%)	3.06 (1.59-5.91)	2.69 (1.38-5.25)
Unprotected anal sex in last 3 mo.			
No	25/109 (22.9%)	ref	ref
Yes	80/292 (27.4%)	1.19 (0.81-1.77)	1.19 (0.79-1.80)
Previous syphilis			
No	51/254 (20.1%)	ref	ref
Yes	54/146 (37.0%)	1.84 (1.33-2.55)	1.73 (1.26-2.36)
Anal GC/CT at baseline			
No	71/316 (22.5%)	ref	ref
Yes	34/84 (40.5%)	1.80 (1.29-2.51)	1.44 (1.02-2.02)
Venues used to meet sex partners in last 3 mo.			
Club or disco			
No	89/353 (25.2%)	ref	ref
Yes	16/48 (33.3%)	1.32 (0.85-2.05)	1.12 (0.72-1.74)
Sauna			
No	90/355 (25.4%)	ref	ref
Yes	15/46 (32.6%)	1.29 (0.82-2.02)	1.08 (0.72-1.61)
Internet			
No	81/346 (23.4%)	ref	ref
Yes	24/55 (43.6%)	1.86 (1.31-2.66)	1.55 (1.03-2.34)
Hotel			
No	67/249 (26.9%)	ref	ref
Yes	38/152 (25.0%)	0.93 (0.66-1.31)	1.40 (0.97-2.03)
Did not meet sex partners in last 3 mo.	25/113 (22.1%)		

Bold indicates p<0.05

Figure 1. Reported venues used to meet sexual partners in last 3 months and associated proportion with recent HIV or syphilis



## CONCLUSIONS

- A high proportion of MSM/TW have recent HIV (n=32, 8.0%) and syphilis (n=82, 20.4%) acquisition in this cohort.
- Meeting sexual partners on the internet was associated with recent HIV or syphilis acquisition.
- While not quite reaching statistical significance, meeting sexual partners at a hotel was also associated with recent acquisition of HIV or syphilis.
- Other characteristics (receptive and versatile sexual roles, previous syphilis, anal GC/CT at baseline) were also associated with recent acquisition of HIV or syphilis.

## IMPLICATIONS

- Internet usage is becoming more accessible and is an increasingly popular way to meet sexual partners
- Efforts to successfully reach Peruvian MSM/TW who use internet to meet sexual partners are needed to help prevent HIV and syphilis acquisition



- Hotels remain a very common meeting place for sexual partners among this high risk population. Efforts are also needed to identify the most frequented hotels and the best way to perform outreach in this venue.

## FUTURE STEPS

- Determine how to reach high risk MSM/TW effectively on the internet
- Ascertain acceptability of various HIV and STI prevention strategies in this cohort



Laboratory testing and counseling at Epicentro

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