

# Levels and Correlates of Unprotected Anal Intercourse and Not Testing for HIV Among Men Who Have Sex With Men in Abuja, Lagos and Ibadan, Nigeria

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## Background

Men who have sex with men (MSM) in Nigeria are 3 to 10 times more likely to be HIV infected compared to the general population and HIV infection is behaviorally linked. Understanding MSM's sexual and HIV testing behaviors can inform and improve targeted HIV interventions. This analysis is among the first to use large-scale data from Nigeria to determine the prevalence and correlates of not testing for HIV and engaging in unprotected anal intercourse (UAI). The findings help fill gaps in the current knowledge base and inform health policy makers and program implementers.



## Methods

- 712 MSM aged 18 years and older living in Abuja (n = 194), Ibadan (n = 210), and Lagos (n = 308) were recruited through respondent-driven sampling (RDS) between August and September 2010. The estimated population of Abuja is 1 million, Ibadan is 1.5 million, and Lagos is 15.5 million.
- Participants completed surveys on HIV risk behavior and tested for HIV. Those testing positive were referred to government clinics for follow-up care.

## Statistical Analysis

Data from 3 cities were pooled for analysis. Logistic and multiple logistic regressions were used to ascertain factors associated with not testing for HIV and UAI. Variables included in the models were determined by literature review and levels of significance at bi-variate analysis ( $p < 0.150$ ). Final model fit was checked using Hosmer-Lemeshow goodness of fit test.

## Results

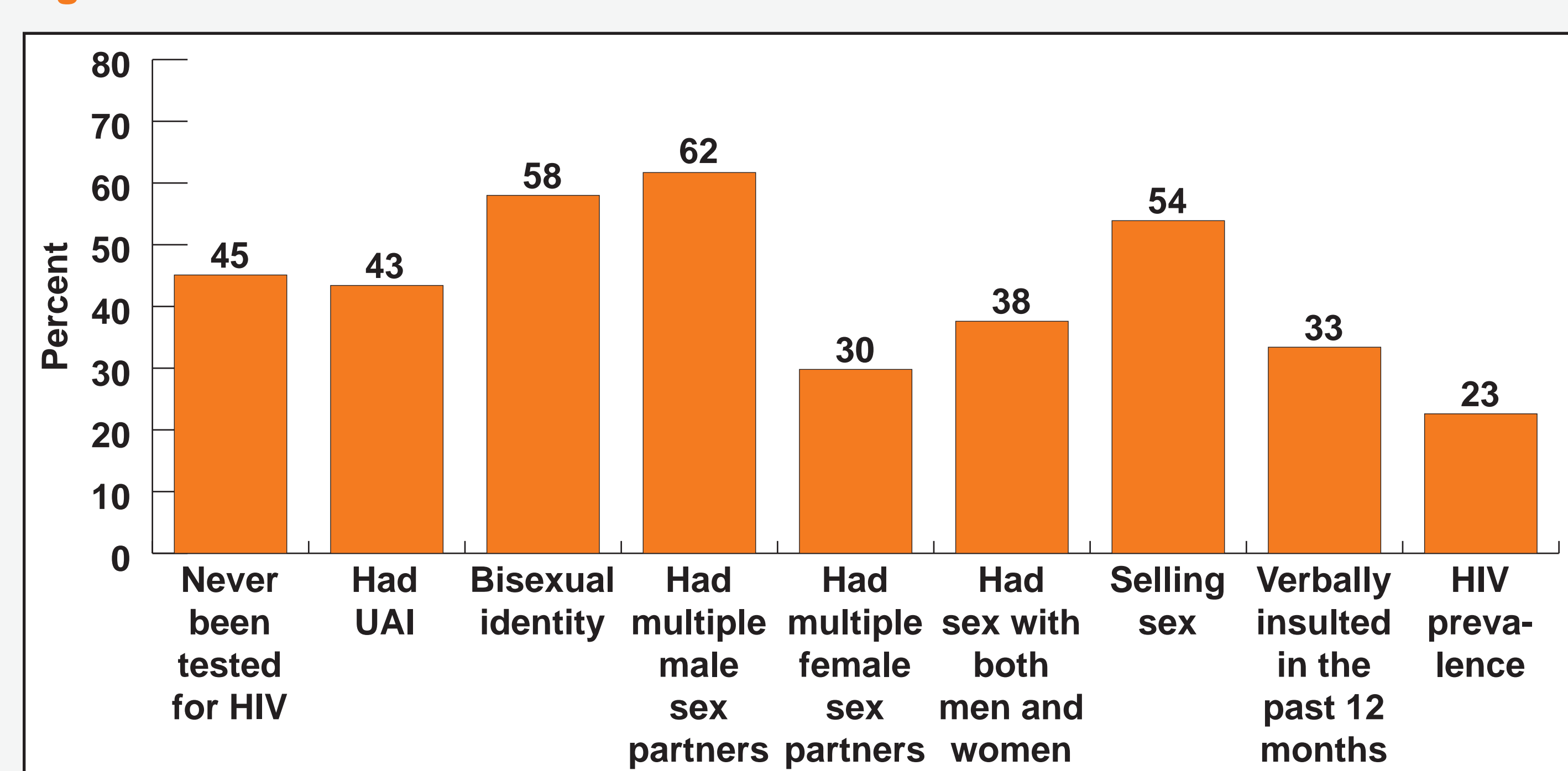
- Participants had the median age of 23 (range = 18–55). The majority of men were single (73%) and had primary/secondary education (71%) (Table 1). About 58% of MSM considered themselves bisexual/straight and 38% had sex with both men and women.

**Table 1: Characteristics of the study population (n = 712)**

Characteristics	% (n)
<b>Age</b> (mean: 25; range: 18-55)	
18–25	71.8 (511)
26–40	28.2 (201)
<b>Education</b>	
Completed secondary or less	71.4 (508)
Completed tertiary	28.6 (204)
<b>Co-habilitation status</b>	
Lived or married to a woman	27.1 (193)
Single	73.0 (519)
<b>Employment</b>	
Not earning	33.4 (238)
Part-time	29.1 (207)
Self-employed	19.2 (137)
Full-time	18.3 (130)

- MSM reported high levels of unprotected anal intercourse at last sex (43%) and multiple male sex partners (62%). Approximately 20% of MSM reported their last sex partner was commercial sex, 54% reported being paid for sex in the last 6 months, about 20% reported having STI symptoms in the previous year, and 45% had never been tested for HIV (Figure 1).

**Figure 1: Sexual risk behaviors**



- UAI was significantly associated with being married to or living with a woman (AOR = 1.5 [1.02–2.2]); being self-identified bisexual ([AOR = 1.5 [1.04–2.1]); having never tested for HIV (AOR = 1.9 [1.3–2.7]); and being HIV positive (AOR = 1.8 [1.2–2.8]) (Table 2).

**Table 2: Factors associated with unprotected anal sex (n = 712)**

Characteristics	UAI % (n)	Odds Ratio (95% CI)	AOR (95% CI)
<b>Site</b>			
Abuja	36.8 (70)	1.0	1.0
Ibadan	49.1 (103)	1.7 (1.1–2.5)**	1.8 (1.1–2.9)*
Lagos	44.1 (136)	1.4 (1.0–2.2)	1.5 (0.9–2.3)
<b>Age</b>			
18–25	43.8 (224)	1.0	n/a
26–40	42.3 (85)	0.9 (0.7–1.3)	
<b>Education</b>			
Completed secondary or less	47.4 (241)	1.0	1.0
Completed tertiary	33.3 (68)	0.6 (0.4–0.8)***	0.7 (0.5–1.1)
<b>Co-habilitation status</b>			
Single	40.5 (210)	1.0	1.0
Lived or married to a woman	51.3 (99)	1.5 (1.1–2.2)**	1.5 (1.02–2.2)*
<b>Job situation</b>			
Unemployed	51.3 (122)	1.0	1.0
Employed	39.5 (187)	0.6 (0.5–0.8)**	0.8 (0.6–1.2)
<b>Sexual identity</b>			
Homosexual	33.8 (93)	1.0	1.0
Straight/bisexual	42.4 (219)	1.4 (1.04–2.0)*	1.5 (1.04–2.1)*
<b>Had multiple male sex partners past 2 months</b>			
No	38.8 (106)	1.0	n/a
Yes	46.2 (203)	1.4 (1.0–1.8)	
<b>Had sex with both men and women past 2 months</b>			
Had sex with both	37.3 (100)	1.0	1.0
Had sex with only men	47.1 (209)	1.5 (1.1–2.0)*	1.3 (0.9–1.8)
<b>Being paid for sex past 6 months</b>			
Yes	37.8 (145)	1.0	1.0
No	50.0 (164)	1.6 (1.2–2.2)	1.3 (0.9–1.8)
<b>Ever tested for HIV</b>			
Yes	34.7 (135)	1.0	1.0
No	53.3 (170)	2.1 (1.6–2.9)***	1.9 (1.3–2.7)***
<b>HIV status</b>			
Negative	43.5 (224)	1.0	1.0
Positive	47.3 (71)	1.2 (0.8–1.6)	1.8 (1.2–2.8)**

Notes: \*significant at  $p < 0.05$ ; \*\*significant at  $p < 0.01$ ; \*\*\*significant at  $p < 0.001$

- Having never tested for HIV was associated with younger age (AOR = 1.8 [1.1–2.7]); being less educated (AOR = 2.2 [1.4–3.4]); being unemployed (AOR = 1.9 [1.3–2.7]); having unprotected anal sex (AOR = 2.0 [1.4–2.8]); and being HIV negative (AOR = 1.7 [1.1–2.6]) (Table 3).

**Table 3: Factors associated with not testing for HIV (n = 708)**

Characteristics	Never Tested for HIV % (n)	Odds Ratio (95% CI)	AOR (95% CI)
<b>Site</b>			
Abuja	31.6 (60)	1.0	1.0
Ibadan	53.3 (112)	2.5 (1.6–3.7)***	1.8 (1.1–2.9)*
Lagos	47.7 (147)	2.0 (1.4–2.9)***	1.4 (0.9–2.3)
<b>Age</b>			
26–40	29.5 (59)	1.0	1.0
18–25	51.2 (260)	2.5 (1.8–3.6)***	1.8 (1.1–2.7)**
<b>Education</b>			
Completed tertiary	27.1 (55)	1.0	1.0
Completed secondary or less	52.3 (264)	3.0 (2.1–4.2)***	2.2 (1.4–3.4)***
<b>Co-habilitation status</b>			
Single	41.5 (215)	1.0	1.0
Lived or married to a woman	54.7 (104)	1.7 (1.2–2.4)**	1.3 (0.9–2.0)
<b>Job situation</b>			
Employed	38.6 (183)	1.0	1.0
Unemployed	58.1 (136)	2.2 (1.6–3.0)***	1.9 (1.3–2.7)**
<b>Sexual identity</b>			
Homosexual	44.7 (123)	1.0	1.0
Straight/bisexual	43.7 (166)	1.0 (0.7–1.3)	1.1 (0.8–1.6)
<b>Had multiple anal male sex partners past 2 months</b>			
No	43.2 (118)	1.0	n/a
Yes	46.2 (201)	1.1 (0.8–1.5)	
<b>Had sex with both men and women past 2 months</b>			
Had sex with both	44.4 (119)	1.0	n/a
Had sex with only men	45.5 (200)	1.0 (0.8–1.4)	
<b>Being paid for sex past 6 months</b>			
Yes	46.1 (177)	1.0	1.0
No	43.8 (142)	0.9 (0.7–1.2)	1.1 (0.8–1.5)
<b>Had UAI at last sex</b>			
No	37.0 (149)	1.0	1.0
Yes	55.7 (170)	2.2 (1.6–2.9)***	2.0 (1.4–2.8)***
<b>HIV status</b>			
Positive	30.9 (46)	1.0	1.0
Negative	51.0 (261)	2.3 (1.6–3.4)***	1.7 (1.1–2.6)*

Notes: \*significant at  $p < 0.05$ ; \*\* significant at  $p < 0.01$ ; \*\*\*significant at  $p < 0.001$

## Conclusion and Recommendations

- Findings indicate high levels of risky sex (43% practiced UAI) and an unmet need for HIV testing (45% never been tested for HIV).
- UAI was attributed to HIV infection among MSM in Nigeria and also found to be associated with not testing for HIV.
  - Underscores the importance of expanding HIV testing to the riskiest MSM sub-groups.
  - Additionally, highlights the need for HIV prevention programs to reduce unsafe sex among these high risk men.
- Because UAI was significantly associated with bisexual identity and having a female partner, prevention programs targeting MSM must address the needs of bisexual men. These men are more likely to engage in unsafe sex with male and female partners which could act as a driver of HIV in the general population.
  - More studies needed to examine sexual behavior and risk factors associated with bisexual identity among MSM, including bisexual concurrency.
- To increase uptake of HIV testing, targeting MSM of lower socio-economic status, younger men, and men who engage in unprotected anal sex is critical.

For more information about this study, please visit our websites, [www.enrnigeria.org](http://www.enrnigeria.org) or [www.popcouncil.org](http://www.popcouncil.org), or e-mail: [lvu@popcouncil.org](mailto:lvu@popcouncil.org) or [sadebajo@popcouncil.org](mailto:sadebajo@popcouncil.org).