

BACKGROUND

- HIV epidemic in Brazil and in Peru is concentrated, affecting MSM and TGW.
- In Brazil, PrEP is available with no direct cost to users through the Public Health System (SUS) since December 2017, and is part of a new policy in the final stage of approval in Peru.
- HIV incidence ImPrEP demonstration study (2018-2021):¹
 - Brazil: 0.36 [CI:0.24-0.54] per 100 p-y
 - Peru: 2.62 [CI:2.04-0.54] per 100 p-y
- HIV incidence placebo arm iPrEX study (2007-2010):²
 - Brazil: 5.0 per 100 p-y
 - Peru: 3.5 per 100 p-y
- However, no recent data estimating HIV incidence among individuals not using PrEP or PEP is available in Latin America.
- We aimed to identify recent HIV infection cases, its associated factors and to estimate annualized HIV incidence using recency testing among sexual and gender minorities undergoing HIV testing in Brazil and Peru.

METHODS

- Cross-sectional study that enrolled adult SGM (18+ years) searching for HIV testing at HIV counseling and testing units, STI Clinics, and HIV Prevention Services in Brazil (6 sites in 6 cities) and Peru (12 sites in 7 cities).
- Exclusion criteria: PLWH, current use of PrEP, PEP, or ART
- HIV testing: Brazilian MoH algorithm that uses two different rapid tests.
- Recent infection testing algorithm (RITA):
 - Maxim HIV-1 Lag-Avidity EIA assay
 - HIV-1 RNA <400 copies/ml
 - CD4 count <200 cells/mm³
 - prior/current ART use
 - MDRI: 214 days (95%CI: 193-237); FRR: 0%.
- Annualized HIV incidence: WHO mathematical formula
- Multivariable logistic regression models per country to estimate factors associated with HIV recent infection.

Figure 1. Study flowchart.

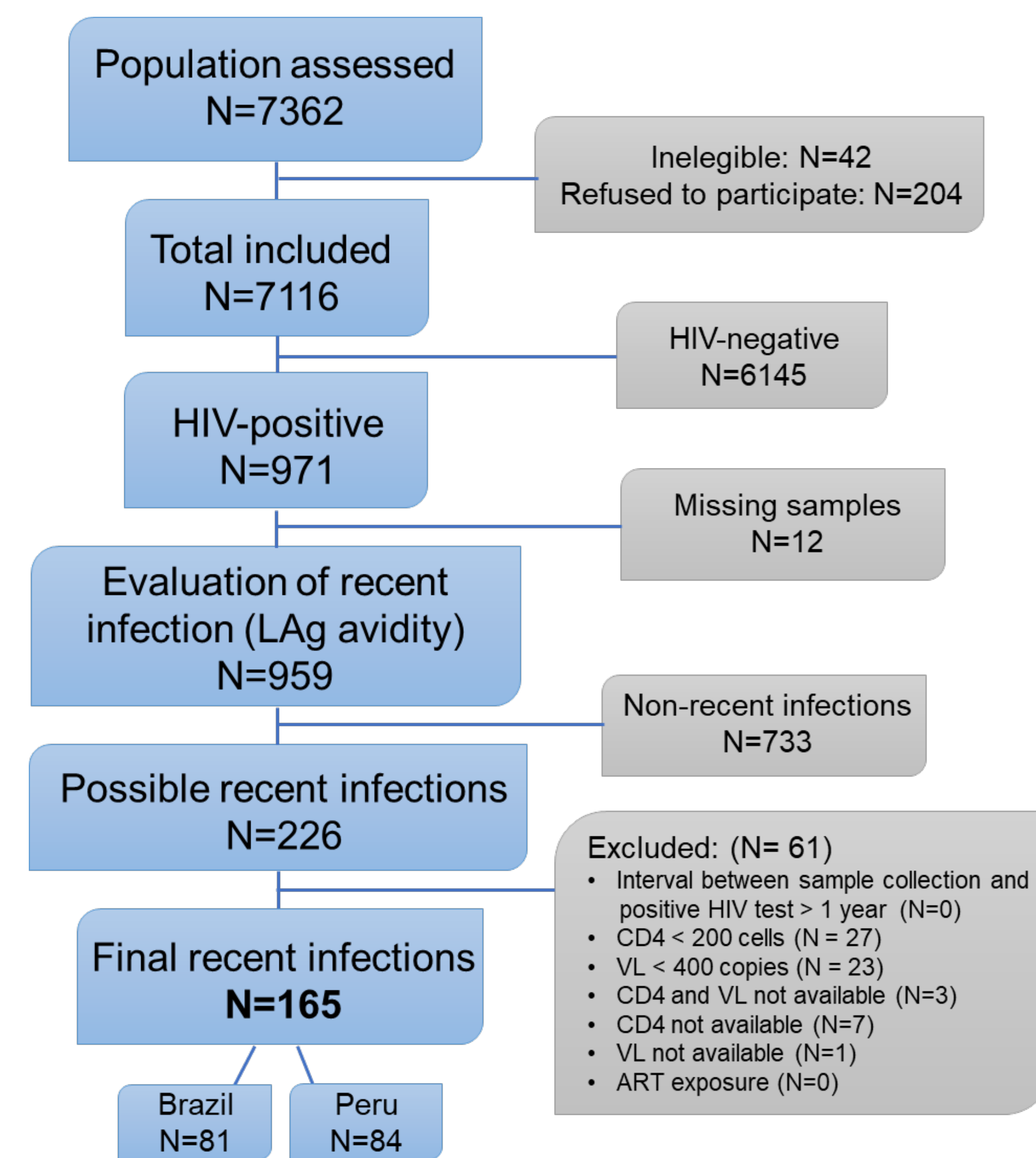


Table 2. Annualized HIV incidence (%; 95%CI).

	Overall	Brazil	Peru
Overall	4.64 (4.11-5.17)	3.30 (2.76-3.84)	7.59 (6.40-8.78)
Age (years)			
18-24	5.99 (4.93-7.04)	4.11 (3.06-5.17)	10.46 (7.95-12.97)
25-30	5.07 (4.10-6.04)	3.59 (2.62-4.55)	9.12 (6.65-11.58)
>30	3.06 (2.33-3.78)	2.21 (1.44-2.98)	4.52 (3.07-5.96)
Gender			
Cisgender men	4.78 (4.20-5.36)	3.31 (2.73-3.89)	8.21 (6.85-9.58)
Transgender women	4.65 (3.04-6.25)	4.02 (2.15-5.90)	5.74 (2.78-8.69)
Race			
Black	3.75 (2.65-4.86)	3.84 (2.71-4.97)	NA
Pardo or Mestizo	5.48 (4.67-6.28)	3.09 (2.21-3.97)	7.66 (6.35-8.96)
White	3.75 (2.85-4.65)	3.19 (2.30-4.08)	7.94 (4.32-11.55)

Table 3. Factors associated with recent HIV infection.

	Brazil		Peru	
	aOR (95%CI)	p-value	aOR (95%CI)	p-value
Age				
≤30 years	0.97 (0.61-1.57)	0.087	1.93 (1.17-3.29)	0.012
>30 years	Ref.		Ref.	
Condomless sex (prior 6 months)				
Yes	2.18 (1.14-4.72)	0.030	3.51 (1.63-9.14)	0.004
No	Ref.		Ref.	

Table 1. Participants characteristics.

	Total N=7116	Brazil N=4700	Peru N=2416
Age (years)			
Median (IQR)	27 (23,34)	27 (23,33)	28 (23,36)
18-24	2296 (32.3)	1555 (33.1)	979 (40.5)
25-30	2286 (32.1)	1606 (34.2)	680 (28.1)
>30	2534 (35.6)	1555 (33.1)	979 (40.5)
Gender			
Cisgender men	6141 (86.3)	4113 (87.5)	2028 (83.9)
Transgender women	769 (10.8)	484 (10.3)	285 (11.8)
Non-binary or gender diverse	206 (2.9)	103 (2.2)	103 (4.3)
Race			
Asian	61 (0.9)	47 (1.0)	14 (0.6)
Black	1331 (18.7)	1294 (27.5)	37 (1.5)
Indigenous	73 (1.0)	33 (0.7)	40 (1.7)
Pardo or Mestizo	3699 (52.0)	1656 (35.2)	2043 (84.6)
White	1952 (27.4)	1670 (35.5)	282 (11.7)
Education (complete)			
Primary	721 (10.1)	504 (10.7)	217 (9.0)
Secondary	4382 (61.6)	2560 (54.5)	1822 (75.4)
Superior	2013 (28.3)	1636 (34.8)	377 (15.6)
Income per capita ¹			
<0.5	1093 (15.7)	468 (10.1)	625 (26.4)
0.5-<1	1941 (27.8)	1019 (22.1)	922 (38.9)
1-2	2485 (35.6)	1746 (37.8)	739 (31.2)
>2	1464 (21.0)	1380 (29.9)	84 (3.5)
HIV testing			
Never	855 (13.8)	507 (12.5)	348 (16.5)
Last 3 months	1220 (19.8)	1045 (25.7)	175 (8.3)
>3-6 months	1456 (23.6)	925 (22.8)	531 (25.1)
>6-12 months	1441 (23.3)	921 (22.7)	520 (24.6)
>12 months	1204 (19.5)	664 (16.3)	540 (25.5)
Previous PEP use	625 (16.4)	611 (17.4)	14 (4.7)
Previous PrEP use	360 (7.5)	214 (5.4)	146 (18.4)
Number of sex-partners			
0 partner	213 (3.0)	135 (2.9)	78 (3.2)
1-5 partners	4418 (62.1)	2874 (61.1)	1544 (63.9)
6-10 partners	1205 (16.9)	778 (16.6)	1205 (16.9)
>10 partners	1280 (18.0)	913 (19.4)	1280 (18.0)
Condomless sex	5573 (78.3)	3642 (77.5)	1931 (79.9)

¹ number of minimum wage (family per month) / number of persons living with this income. Minimum wage per month in Brazil in 2022 was R\$1212 (USD 230).

ADDITIONAL KEY INFORMATION

- Contact: thiago.torres@ini.fiocruz.br
- We would like to thank the study participants.
- This project was made possible thanks to Unitaid's funding / support.
- Unitaid is a hosted partnership of WHO.
- We would like to thank the Ministries of Health of Brazil, Mexico, and Peru.
- TST, PML, and BG are supported by **CNPq** and **FAPERJ**

RESULTS

- Of 7362 individuals approached, 7116 (97%) were eligible and enrolled.
 - Brazil: 4700 (66%)
 - Peru: 2416 (34%)
- Most were cisgender MSM, aged 30 years or less, completed secondary education or less (Table 1).
- In the prior 6 months, 35% reported >5 sex-partners, 79% condomless sex, 20% STI symptoms, 14% transactional sex, 27% substance use and 57% binge drinking.
- HIV prevalence was 13.7%
 - Brazil: 10.0%
 - Peru: 20.7%
- 165 (17.2%) were classified as recently infected:
 - Brazil: 81/4700 (1.7%)
 - Peru: 84/2416 (3.5%)
- Annualized HIV incidence was **4.64%**, higher in Peru compared to Brazil and among young (≤30 years) SGM (Table 2).
- Multivariable models showed that in both countries engaging in condomless sex increased the odds of recent HIV infection and in Peru being young (Table 3).

CONCLUSIONS

- High levels of HIV prevalence, recent HIV infection and annualized HIV incidence among SGM in Brazil and Peru highlight the burden of the HIV epidemic among these populations.
- Public Health policies and interventions to increase PrEP access in Latin America are urgently needed, especially among young SGM. In Peru, the approval of the new combination prevention policy, including PrEP, is urgent.

REFERENCES

- Veloso VG, et al.. Same-day initiation of oral pre-exposure prophylaxis among gay, bisexual, and other cisgender men who have sex with men and transgender women in Brazil, Mexico, and Peru (ImPrEP): a prospective, single-arm, open-label, multicentre implementation study. *Lancet HIV*. 2023 Feb;10(2):e84-e96.
- Buchbinder SP, et al. HIV pre-exposure prophylaxis in men who have sex with men and transgender women: A secondary analysis of a phase 3 randomised controlled efficacy trial. *Lancet Inf Dis* 2014;14(6):468-75.