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## Background

- Number of HIV cases continues to rise among young (18-30 years) gay, bisexual, and other men who have sex with men (MSM) and transgender women (TGW) in Latin America.<sup>1</sup>
- ImPrEP was a PrEP implementation study conducted in Brazil, Peru, and Mexico.<sup>2,3</sup> We describe characteristics of HIV seroconversions in ImPrEP by country.

## Methods

- Eligible MSM and TGW (HIV-negative, ≥18 years, reporting 1+ risk criteria) were screened and enrolled on the same day and received a 30-day oral TDF/FTC PrEP supply.
- Follow-up visits were scheduled 4 weeks post-enrolment and quarterly thereafter. HIV rapid testing was performed at all visits.
- We compared demographic (at enrollment), behavior and STI (last visit prior to HIV seroconversion) characteristics using chi-square or exact tests for the contingency tables and Kruskal Wallis tests for medians.

## Results

- From February 2018 to June 2021, 9509 MSM/TGW were enrolled in ImPrEP Study, 3928 (41.3%) in Brazil, 3288 (24.6%) in Mexico and 2293 (24.1%) in Peru.
- 104 were diagnosed with HIV during 12,185.25 person-years of follow-up.
- Overall, 76.0% were young (18-30 years), 82.7% non-white, and 71.3% completed secondary education or more (Table 1).
- The median number of partners was 5 (IQR:2-15); 70.2% reported receptive condomless anal sex, 92.2% inconsistent condom use and 85.6% incomplete PrEP adherence.
- The median number of days between the first PrEP dispensation and HIV diagnosis was 360 days, higher in Brazil (541 days) and lower in Mexico (242 days).
- The median HIV viral load after diagnosis was 12,257 copies/mL, lower in Mexico (3680 copies/mL) and higher in Peru (50100 copies/mL).
- Viral mutations detected were: 1 (1.8%) K70 and 6 (10.5%) M184V/I.

**Table 1. Characteristics of HIV seroconversion events of participants enrolled in the ImPrEP study.**

	All N = 104 n (%)	Brazil N = 24 n (%)	Mexico N = 18 n (%)	Peru N = 62 n (%)	p-value
Gender <sup>1</sup>					0.287
Cisgender man	93 (89.4)	22 (91.7)	18 (100.0)	53 (85.5)	
Transgender woman	11 (10.6)	2 (8.3)	0 (0.0)	9 (14.5)	
Age (Years) <sup>1</sup>					0.065
18-30	79 (76.0)	18 (75.0)	10 (55.6)	51 (82.3)	
>30	25 (24.0)	6 (25.0)	8 (44.4)	11 (17.7)	
Median (IQR)	24 (21-30)	24 (21-29)	30 (23-33)	23 (20-29)	0.110
Race <sup>1</sup>					0.020
White	18 (17.3)	9 (37.5)	2 (11.1)	7 (11.3)	
Non-White	86 (82.7)	15 (62.5)	16 (88.9)	55 (88.7)	
Education <sup>1</sup>					0.015
Up to secondary	30 (28.8)	5 (20.8)	1 (5.6)	24 (38.7)	
More than secondary	74 (71.2)	19 (79.2)	17 (94.4)	38 (61.3)	
Transactional sex <sup>1,3</sup>					0.030
Yes	30 (28.8)	3 (12.5)	9 (50.0)	18 (29.0)	
No	74 (71.2)	21 (87.5)	9 (50.0)	44 (71.0)	
Receptive Condomless Anal Sex <sup>2,4</sup>					< 0.001
Yes	73 (70.2)	17 (70.8)	5 (27.8)	51 (82.3)	
No	31 (29.8)	7 (29.2)	13 (72.2)	11 (17.7)	
Number of sex partners <sup>2,4</sup>					0.770
< 5	51 (49.0)	13 (54.2)	8 (44.4)	30 (48.4)	
5-10	23 (22.1)	3 (12.5)	5 (27.8)	15 (24.2)	
> 10	30 (28.9)	8 (33.3)	5 (27.8)	17 (27.4)	
Median (IQR)	5 (3-15)	4 (1-15)	6 (2-15)	5 (2-15)	0.820
Condom use <sup>2,4</sup>					0.151
Always	8 (7.8)	4 (16.7)	1 (5.9)	3 (4.8)	
Inconsistent	95 (92.2)	20 (83.3)	16 (94.1)	59 (95.2)	
STI <sup>2,4</sup>					0.020
Yes	6 (5.8)	4 (16.7)	1 (5.6)	1 (1.6)	
No	98 (94.2)	20 (83.3)	17 (94.4)	61 (98.4)	
Binge drinking <sup>2,4</sup>					0.350
Yes	43 (41.8)	13 (54.2)	5 (29.4)	25 (40.3)	
No	60 (58.2)	11 (45.8)	12 (70.6)	37 (59.7)	
Stimulant use <sup>2,4,5</sup>					0.165
Yes	13 (12.5)	4 (16.7)	4 (22.2)	5 (8.1)	
No	91 (87.5)	20 (83.3)	14 (77.8)	57 (91.9)	
Incomplete self-reported PrEP adherence <sup>2,6</sup>					0.027
Yes	89 (85.6)	20 (83.3)	12 (66.7)	57 (91.9)	
No	15 (14.4)	4 (16.7)	6 (33.3)	5 (8.1)	
Days from first PrEP dispensing to first HIV positive test					0.016
Median (IQR)	360 (186-581)	541 (244-770)	242 (108-331)	360 (245-560)	
First HIV viral load after diagnosis					0.021
Median (IQR) copies/mL	12257 (851-114118)	7727 (387-54311)	3680 (700-80750)	50100 (1070-156000)	
Missing, n (%)	33 (31.7)	1 (4.2)	1 (5.6)	31 (50.0)	
HIV Genotyping with valid results					0.119
Yes	57 (54.8)	11 (45.8)	7 (38.9)	39 (62.9)	
No	47 (45.2)	13 (54.2)	11 (61.1)	23 (37.1)	
Mutations (valid results)					
K65	1 (1.8)	1 (9.1)	0 (0.0)	0 (0.0)	0.316
K70	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	---
M184V/I	6 (10.5)	1 (9.1)	2 (28.6)	3 (7.7)	0.228

<sup>1</sup> Baseline information; <sup>2</sup> last visit prior to HIV seroconversion; <sup>3</sup> last 6 months; <sup>4</sup> last 3 months; <sup>5</sup> stimulant use was defined as use of any: club drugs (e.g. ecstasy, LSD and GHB), cocaine (powder, crack, or paste), poppers or other inhalants; <sup>6</sup> report of missing at least one PrEP pill in the previous 30 days.

## Conclusions

- We observed that seroconversions during the ImPrEP study occurred predominantly in the first year of follow-up among young MSM and TGW who reported high risk for HIV and poor PrEP adherence.
- Long-acting PrEP may be an appropriate strategy to overcome adherence barriers observed among young MSM and TGW in Latin America.

## References

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