Mental Health and PrEP Adherence Among MSM/Non-Cisgender People From Latin America

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BACKGROUND

- In Latin America, gay, bisexual, and other cisgender men who have sex with men, and transgender women bear the highest burden of new HIV infections.[1]
- Oral pre-exposure prophylaxis (PrEP) with emtricitabine and tenofovir is an effective HIV prevention strategy.[2] Impaired mental health, including depression, decreases adherence to antiretroviral treatment among people living with HIV,[3] but its impact on PrEP adherence is still unclear.
- We aimed to assess the association of general mental health, depression, substance use, and sexual behavior with self-reported PrEP adherence in Brazil, Mexico, and Peru.

METHODS

- This is a secondary analysis of a web-based survey conducted among sexual and gender minorities aged 18+ years from May to August 2021 in Brazil, Mexico, and Peru which explored PrEP use and knowledge. We included in this analysis only those reporting daily oral PrEP use, and assessed sociodemographics, general mental health (defined as psychological distress and well-being), and depression scores, as well as sexual behavior, alcohol, and substance use.
- PrEP adherence was evaluated based on a self-report of the number of pills taken per week in the last month and dichotomized into perfect adherence (7 pills/week) and nonperfect (<7 pills/week). We assessed general mental health and screened depression with the validated 5-item domain of mental health from the *36-item Short Form Survey*[4] and the *Patient Health Questionnaire-2*,[5] respectively.
- Variables with *P*<0.1 in bivariate regression models were included in a multivariate logistic model, using perfect PrEP adherence as the outcome.

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RESULTS

- Total sample was 1419 PrEP users, and 1312 completed the questionnaire (1312/1419; 92.5%). Median age was 34 (IQR: 29-40), 87.3% were from Brazil, 10.2% from Mexico, and 2.5% from Peru. The majority were cisgender men (98.3%) and had more than secondary education (79.9%). Perfect PrEP adherence was reported by 93.1% of participants, with the lowest proportion in Peru (30/34; 88.2%) (Fig. 1). Median score for general mental health was 21 (IQR: 17-24), the lowest among Brazilians (20 [IQR: 17-24]), compared to Mexicans (22 [IQR: 18-25]) and Peruvians (23 [IQR: 19-26]). In our sample, 23% screened positive for depression, with the highest proportion in Brazil (275/1143; 24.1%) followed by Peru (7/34; 20.6%) and Mexico (20/135; 14.8%) (Fig. 2).
- Higher score of general mental health, regular use of geosocial networking apps, a higher number of sexual partners, and increased HIV risk perception increased the odds of PrEP adherence. While possible depression and having a stable partner decreased the odds of PrEP adherence. Nevertheless, only having a stable partner and >10 sexual partners remain associated with PrEP adherence in the final multivariate model (Table1).

Table 1. Factors associated with PrEP adherence among cis men and non-cisgender people who have sex with men in Brazil, Mexico & Peru

	OR	*P*	95% CI		aOR	*P*	95% CI	
Country *(ref. Brazil)*								
Mexico	0.89	0.740	0.45	1.77		---		
Peru	0.53	0.250	0.18	1.56		---		
Age *(ref. 25+)*								
18-24	0.58	-1.52	0.128	0.29		---		
Gender *(ref. cisgender men)*								
Trans woman	0.37	0.362	0.04	3.17		---		
Nonbinary	1.17	0.877	0.15	8.95		---		
Race *(ref. White)*								
Mixed / Mestizo	0.94	0.785	0.59	1.50		---		
Black	1.03	0.935	0.48	2.24		---		
Other	0.90	0.886	0.21	3.90		---		
Schooling *(ref. ≤secondary)*								
>Secondary	1.07	0.808	0.63	1.80		---		
Screen positive for depression *(yes vs. no)*	**0.61**	**0.033**	**0.38**	**0.96**	0.68	0.191	0.38	1.21
General mental health *(score)*	**1.06**	**0.012**	**1.01**	**1.10**	1.04	0.156	0.99	1.09
Stable partner *(yes vs. no)*	**0.56**	**0.008**	**0.36**	**0.86**	**0.60**	**0.028**	**0.37**	**0.95**
Frequency of app use *(ref. never)*								
Sometimes	**2.04**	**0.024**	**1.10**	**3.79**	1.23	0.553	0.62	2.44
Daily	1.74	0.144	0.83	3.67	1.04	0.934	0.46	2.31
Transactional sex *(ref. yes vs. no)*	0.66	0.223	0.34	1.29		---		
HIV risk perception under PrEP *(ref. low)*								
Middle	1.13	0.767	0.50	2.58	1.12	0.786	0.49	2.59
High	**2.16**	**0.086**	**0.90**	**5.20**	1.83	0.190	0.74	4.54
Number of sexual partners *(ref. 1-5 people)*								
6-10 people	1.42	0.223	0.81	2.51	1.20	0.539	0.67	2.18
>10 people	2.24	0.002	1.36	3.68	**1.72**	**0.050**	**1.00**	**2.95**
Condomless anal sex *(yes vs. no)*	1.28	0.444	0.68	2.42		---		
Sex under alcohol *(yes vs. no)*	0.84	0.423	0.54	1.29		---		
Sex under substances *(yes vs. no)*	0.96	0.873	0.61	1.52		---		

Fig. 1. PrEP Adherence among cis men and non-cisgender people who have sex with men in Brazil, Mexico & Peru

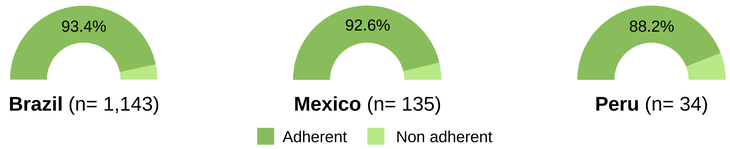
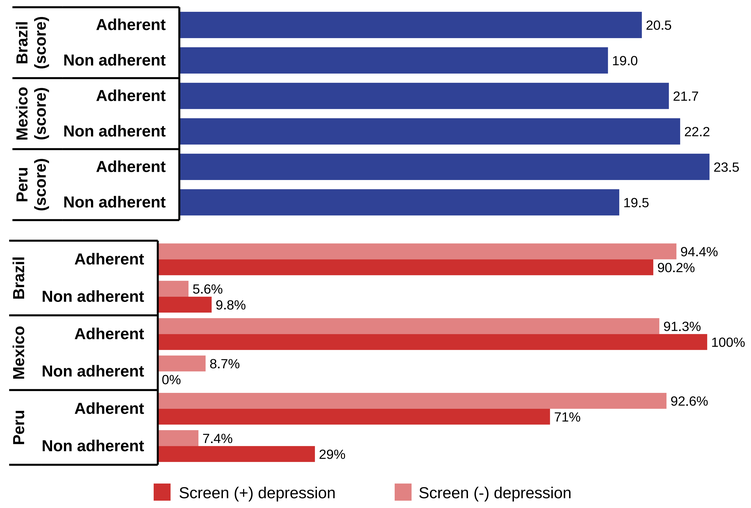


Fig. 2. General Mental Health & Depression by PrEP adherence among cis men and non-cisgender people who have sex with men in Brazil, Mexico & Peru



CONCLUSIONS

- The role of general mental health and depression on PrEP adherence is still unclear, but sexual behavior and relational variables are associated with PrEP adherence.

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