

Willingness to use HIV Self-testing (HIVST) among MSM from Brazil, Mexico and Peru.

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BACKGROUND

- HIV self-testing (HIVST) is an important tool within the combined HIV prevention package and has been commercially available in Latin America since 2015, although its use among key populations is still low.
- This study aims to describe awareness, willingness and barriers to HIVST use among MSM in Brazil, Mexico and Peru.

METHODS

- Cross-sectional online study targeting MSM from Brazil, Mexico and Peru.
- Eligibility criteria: age ≥18 years, cisgender men, and HIV negative serostatus.
- Questionnaire was advertised on GSN apps for sex (Hornet and Grindr) and on Facebook during 2 months in 2018.
- Willingness to use HIVST was defined as selecting the highest option on a five-point Likert scale.
- Factors associated with HIVST willingness were assessed using a logistic multivariable model.

RESULTS

- A total of 18,916 completed the survey, 59% from Brazil, 30% from Mexico and 11% from Peru.
- Characteristics of MSM included are depicted in **Table 1**.
- Overall, 20% of MSM never tested for HIV, and the frequency of testing varied across the countries (see **Figure 1**).
- Main reasons for never testing for HIV were: afraid of positive results (28%), perceived low risk of getting infected (22%) and feeling ashamed to get tested (21%).
- Awareness and willingness to use HIVST was higher in Brazil (**Figure 2**) compared to Peru and Mexico.
- Considering the barriers to use HIVST, the great majority think post-testing counseling is essential and that the majority of people would have difficulty dealing with a positive result (see **Figure 3**).
- Willingness to use HIVST was associated with high income, high education and willingness to use PrEP in all countries (see **Table 2**).

Table 1. Characteristics of the individuals who completed the questionnaire. Brazil, Mexico and Peru, 2018.

	Brazil N=11118 (58.8%)	Mexico N=5724 (30.3%)	Peru N=2074 (11.0%)	Total N=18916 (100%)
Age (years)				
Median (IQR)	29 (24-35)	28 (24-34)	26 (22-31)	28 (24-34)
18-24	3146 (28.3)	1702 (29.7)	850 (41.0)	5698 (30.1)
Race: Non-white	5245 (47.2)	NA	1610 (80.5)	6855 (52.3)
Monthly income				
Low	4990 (44.9)	1484 (28.7)	681 (36.7)	7155 (39.4)
Middle	4627 (41.6)	2316 (44.7)	912 (49.2)	7855 (43.3)
High	1501 (13.5)	1376 (26.6)	261 (14.1)	3138 (17.3)
Education: ≤ High school	4259 (38.6)	1332 (23.3)	442 (21.6)	6033 (32.1)
Gay/homosexual	10163 (91.6)	5032 (88.2)	1642 (79.7)	16837 (89.3)
Steady partner	2853 (25.8)	1514 (26.7)	588 (28.9)	4955 (26.4)
Recruitment (via GSN app)	9895 (89.0)	5184 (90.5)	919 (44.3)	15998 (84.6)
Daily use of GSN app for sex	6017 (54.1)	2098 (36.7)	688 (33.2)	8803 (46.5)
High Perceived likelihood of getting HIV (next 12 months)	3223 (29.9)	2396 (42.7)	864 (42.6)	6483 (35.2)
HIV Incidence Risk scale for MSM (High risk)	5849 (52.6)	2950 (51.5)	1128 (54.4)	9927 (52.5)
Sex under the influence of alcohol (6 months)	4105 (37.0)	2027 (35.4)	749 (36.2)	6881 (36.5)
Transactional sex (6 months)	602 (5.4)	263 (4.6)	149 (7.2)	1014 (5.4)
STI diagnoses (6 months)	1447 (13.3)	362 (6.6)	187 (9.6)	1996 (10.9)
Willingness to use PrEP	6961 (62.6)	4027 (70.4)	1199 (57.8)	12187 (64.4)

Figure 1. HIV testing frequency in Brazil, Mexico and Peru, 2018.

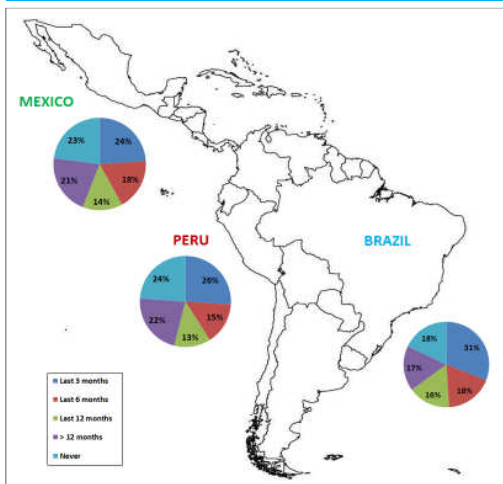
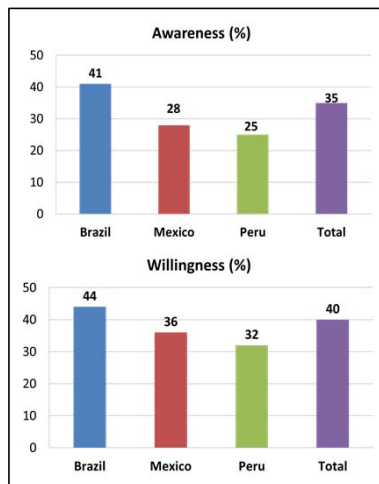


Figure 2. Awareness and willingness to use HIVST in Brazil, Mexico and Peru, 2018.



CONCLUSIONS

- Awareness and willingness to use HIVST were low in Brazil, Mexico and Peru.
- Efforts to increase HIVST knowledge and resolve perceived barriers are warranted, especially among those with lower income and schooling. Online educational advertisements could play an important role among this population.
- Those willing to use HIVST are also willing to use PrEP. This indicates that HIVST delivery platforms could be incorporated to the PrEP program within the Public Health Systems from Brazil, Mexico and Peru.

RESULTS

Figure 3. Barriers to use HIVST in Brazil, Mexico and Peru, 2018.

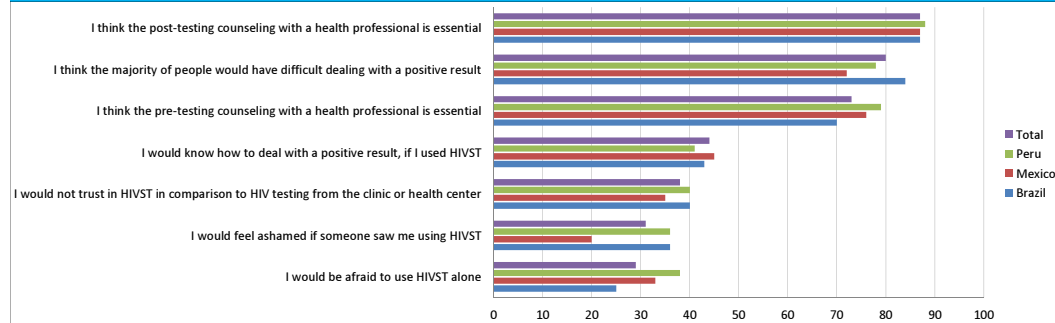


Table 2. Factors associated with willingness to use HIVST. Brazil, Mexico and Peru, 2018.

Variable	Brazil		Mexico		Peru	
	Bivariate models OR(95% CI)	Multivariate model AOR (95% CI)	Bivariate models OR (95% CI)	Multivariate model AOR (95% CI)	Bivariate models OR (95% CI)	Multivariate model AOR (95% CI)
Age (18-24 vs. ≥ 25 years)	0.68(0.63-0.74)	0.92(0.84-1.01)	0.84(0.74-0.94)	1.10(0.95-1.28)	0.73(0.60-0.88)	1.19(0.93-1.52)
Color (Non-white vs. White)	0.85(0.79-0.92)	0.99(0.92-1.08)	NA	NA	1.04(0.82-1.32)	b
Monthly income						
Low	Ref	Ref	Ref	Ref	Ref	Ref
Middle	1.64(1.52-1.78)	1.44(1.32-1.57)	1.27(1.11-1.46)	1.20(1.03-1.40)	1.29(1.04-1.61)	1.12(0.87-1.45)
High	2.60(2.31-2.93)	2.16(1.90-2.46)	1.74(1.49-2.03)	1.60(1.34-1.92)	2.37(1.77-3.19)	2.02(1.42-2.88)
Education (> High school vs. ≤ High school)	1.66(1.53-1.79)	1.31(1.20-1.44)	1.31(1.15-1.49)	1.15(0.99-1.34)	1.66(1.31-2.12)	1.43(1.07-1.92)
Recruitment (app vs. other)	1.15(1.02-1.29)	1.15(1.01-1.30)	0.94(0.79-1.13)	b	1.12(0.93-1.34)	b
Use of apps for sex (daily vs. never/sometimes)	1.06(0.98-1.14)	b	1.18(1.05-1.32)	1.03	1.47(1.21-1.78)	1.44(1.17-1.78)
Sex under alcohol use (yes vs. no)	1.08(1.00-1.16)	b	1.20(1.07-1.34)	1.16(1.03-1.31)	1.16(0.95-1.40)	b
Transactional sex (yes vs. no)	0.70(0.59-0.82)	0.83(0.70-0.99)	1.21(0.94-1.56)	b	1.22(0.86-1.72)	b
PrEP willingness (yes vs. no)	1.39(1.29-1.51)	1.31(1.20-1.42)	1.75(1.55-1.98)	1.60(1.40-1.82)	2.12(1.74-2.58)	1.84(1.49-2.28)
HIVST awareness (yes vs. no)	1.09(1.01-1.18)	b	0.90(0.79-1.01)	0.82(0.72-0.94)	0.86(0.69-1.07)	0.77(0.61-0.98)
Barriers:						
I would be afraid to use HIVST alone (no vs. yes)	1.35(1.24-1.48)	1.24(1.13-1.36)	1.15(1.02-1.29)	b	1.27(1.05-1.55)	b
I would know how to deal with a positive result, if I used HIVST (no vs. yes)	0.70(0.65-0.75)	0.74(0.69-0.80)	0.64(0.57-0.71)	0.68(0.61-0.77)	0.63(0.53-0.76)	0.65(0.53-0.80)
I would not trust in HIVST in comparison to HIV testing from the health care center (no vs. yes)	1.24(1.15-1.34)	1.16(1.07-1.26)	1.52(1.35-1.70)	1.51(1.33-1.71)	1.52(1.26-1.84)	1.45(1.17-1.79)
I think the pre-testing counseling with a health professional is essential (no vs. yes)	1.26(1.16-1.37)	1.17(1.06-1.28)	1.16(1.02-1.31)	1.21(1.03-1.42)	1.32(1.05-1.64)	b
I think the post-testing counseling with a health professional is essential (no vs. yes)	0.92(0.82-1.03)	0.75(0.66-0.85)	0.83(0.71-0.98)	0.70(0.57-0.86)	0.97(0.73-1.29)	b

* variables with p<0.01 in bivariate models were included in the initial multivariable model. Variables with p<0.05 were kept in the final multivariable models, excepted for age, monthly income and schooling defined a priori for all countries, and race only for Brazil; statistically significant associations at p<0.05 in Bold; b not statistically significant

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