HIV self-testing uptake among adolescent men who have sex with men (AMSM) and transgender women (ATGW) in Brazil before and during the COVID-19 pandemic: a cross-sectional study

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Introduction

- HIV self-testing (HIVST) is an alternative method to reach populations that have difficulty accessing testing, such as men who have sex with men (MSM) and transgender women (TGW);

- The COVID-19 pandemic has negatively affected HIV service delivery in several countries;

- Moreover, the importance of HIVST increased during physical distancing measures, particularly among adolescents and young people from sexual and gender minorities.

- This study aimed to identify the factors associated with HIVST uptake among adolescent men who have sex with men (AMSM) and transgender women (ATGW) in three Brazilian capitals before and during the COVID-19 pandemic.
Methods

• A cross-sectional HIVST uptake study was conducted, nested within the PrEP1519 study, a cohort of daily oral PrEP among MSM and TGW aged 15–19 in three large capital cities in Brazil- Salvador, São Paulo, and Belo Horizonte;

• HIVST kits composed of the test itself, guidelines, condoms, and intimate lubricant) were provided to all participants by peer educators while providing prevention interventions developed in the context of demand creation strategies for PrEP from February 21th/2019 to March 31th/2021;

• These interventions were provided face-to-face in youth venues (e.g., parties and beaches) and via hook-up apps and online networks (e.g., Grindr, Instagram, and Facebook).
**Fast-Track Cities 2023**

**PrEP15-19 implementation model**

**Demand Creation**
- Communication material (cards, posters, PrEP emoji's, PrEPO mascot, Comics, Road Map)
- Boosting on social media
- Kits for influencers.

**Community Mobilization**
- Peer educators and participants
- On-line: Amanda Selfie- chatbot
- Social Networks and dating apps
- Boosting social media
- Digital influencers

**Services face-to-face**
- Youth, LGBT friendly space for HIV services; HIV and STI testing;
- Youth, LGBT and friendly space for HIV services; HIV and STI testing;
-langle to care and treatment if tested positive for STI
- Counselling and screening for mental health
- Psychological support;
- Clinical, laboratory and behavioral questionnaires;
- Medical, nursing care and social work support;
- PrEP + condom distribution;
- Referrals of STI treatment, PEP, vaccination to NHS

**Reaching and engaging teenagers and young people in HIV testing**

**HIV self-testing**

**Delivery services**
- Telehealth by health providers;
- Clinical, laboratory and behavioral questionnaires by internet;
- PrEP + condom dispensation;

**Suspension during COVID-19 restrictions**

**PrEP Clinics**

**QR code for accessing the paper**

**AMSTERDAM FAST-TRACK CITIES 2023**

**PrEP Clinics**

**Services face-to-face**
- Youth, LGBT friendly HIV services; HIV and STI testing;
- Linkage to care and treatment if tested positive for STI
- Counselling and screening for mental health
- Psychological support;
- Clinical, laboratory and behavioral questionnaires;
- Medical, nursing care and social work support;
- PrEP + condom distribution;
- Referrals of STI treatment, PEP, vaccination to NHS

**Delivery services**
- Telehealth by health providers;
- Clinical, laboratory and behavioral questionnaires by internet;
- PrEP + condom dispensation;
The PrEP1519 telehealth strategy

**e-Recruitment**
- Demand creation
  - Communication materials
    - Social media
      - Peer educators in
        - Artificial intelligence
      - Hook up apps
        - Social media
        - Amanda selfie chatbot
  - Online forms and informed consent

**e-Clinical care**
- PrEP initiation
  - Online questionnaires
  - If necessary: Face to face appointment: HIV and STI rapid tests, blood sampling collect to lab exams
- PrEP continuation
  - Online questionnaires
  - HIVST
  - Online consultations

Online consent form to adolescents > 18 y.o
Consent form signed by parents or guardians for adolescents < 18 years old

QR code for accessing the paper

Adapting to the COVID-19 Pandemic: Continuing HIV Prevention Services for Adolescents Through Telemonitoring, Brazil

**References**

Inda Duraneda, Leila Magno, Fabiane Saques, Paula Menezes, Aline Numan, Shona Dalek, Alexandra Grisantes on behalf of The Brazilian PrEP1519 Study Group
Methods

- HIVST kits were provided to all participants during face-to-face interventions and sent by mail during virtual interventions.

- A socio-behavioral questionnaire was administered when the HIVST kits were distributed;

- The study period was divided into two discrete periods:
  - Before the COVID-19 pandemic (February 21th, 2019, to March 15th, 2020);
  - During the pandemic (March 16th, 2020, to March 31st, 2021).

- The outcome was HIVST uptake (yes, no), stratified by the period before and during the pandemic.

- Multivariable logistic regression estimated the odds ratios (OR) and their respective 95% confidence intervals (95% CIs) of the association between predictor variables and HIVST uptake.

- This study was approved by the Research Ethics Committee (REC) of the World Health Organization (Protocol ID: Fiotec-PrEP Adolescent Study) and by the REC of the local Universities.
## Results

Table 1. Characteristics of study participants, PrEP1519 study, 2019–2021, Brazil

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pre-pandemic* [N = 510]</th>
<th>During the pandemic* [N = 1075]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td><strong>Sociodemographic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMSM</td>
<td>448 (88.19)</td>
<td>947 (88.34)</td>
</tr>
<tr>
<td>ATGW</td>
<td>60 (11.81)</td>
<td>125 (11.66)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15–17 years</td>
<td>90 (19.40)</td>
<td>178 (18.46)</td>
</tr>
<tr>
<td>18–19 years</td>
<td>374 (80.60)</td>
<td>786 (81.54)</td>
</tr>
<tr>
<td>Race/skin color</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>147 (28.82)</td>
<td>303 (28.19)</td>
</tr>
<tr>
<td>Black or Pardo</td>
<td>348 (68.24)</td>
<td>736 (68.47)</td>
</tr>
<tr>
<td>Yellow, indigenous, or other</td>
<td>15 (2.94)</td>
<td>36 (3.35)</td>
</tr>
<tr>
<td><strong>Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary education and adult education</td>
<td>48 (10.32)</td>
<td>86 (8.93)</td>
</tr>
<tr>
<td>High school</td>
<td>281 (60.43)</td>
<td>637 (66.15)</td>
</tr>
<tr>
<td>Higher education</td>
<td>136 (29.25)</td>
<td>240 (24.92)</td>
</tr>
<tr>
<td>Current living situation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents or other family members</td>
<td>373 (80.22)</td>
<td>776 (80.50)</td>
</tr>
<tr>
<td>Other people</td>
<td>62 (13.33)</td>
<td>129 (13.38)</td>
</tr>
<tr>
<td>Alone</td>
<td>30 (6.45)</td>
<td>59 (6.12)</td>
</tr>
</tbody>
</table>

**Condom use in receptive anal sex with a casual partner in the previous 3 months**

|                                | Pre-pandemic* [N = 510] | During the pandemic* [N = 1075] |
|                                | n (%)                   | n (%)                            |
| Consistent use                 | 119 (39.53)             | 164 (31.78)                      |
| Inconsistent use               | 182 (60.47)             | 352 (68.22)                      |
Results

Table 2. HIVST kit requests and provision before and during the COVID-19 pandemic, PrEP1519 study, 2019–2021, Brazil.

<table>
<thead>
<tr>
<th></th>
<th>Overall (N=1,585)</th>
<th>Pre-pandemic* (N=510)</th>
<th>During the pandemic** (N=1,075)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>participants who</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>received a HIVST kit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>at least once</td>
<td>491</td>
<td>229</td>
<td>382</td>
</tr>
<tr>
<td>Total HIVST kits</td>
<td>1290</td>
<td>570 (44.2)</td>
<td>720 (55.8)</td>
</tr>
</tbody>
</table>

- **HIVST target person**
  - Self: 36.80% (31.20%)
  - Sexual partner: 56.20% (43.80%)
  - Friend or other: 31.20% (32.40%)

- **HIVST uptake**
  - Overall: 44.90%
  - Before the COVID-19: 35.50%
  - During COVID-19: 67.60%
## Results

### Table 3.

Factors associated with requesting HIVST before and during the COVID-19 pandemic, PrEP1519 study, 2019–2021, Brazil.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pre-pandemic* (N=510)</th>
<th>During the pandemic** (N=1075)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cis man</td>
<td>1.00 (ref.)</td>
<td>1.00 (ref.)</td>
</tr>
<tr>
<td>TGW</td>
<td>0.86 (0.463–1.586)</td>
<td>0.66 (0.338–1.231)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15–17 years</td>
<td>1.00 (ref.)</td>
<td>1.00 (ref.)</td>
</tr>
<tr>
<td>18–19 years</td>
<td>0.99 (0.618–1.603)</td>
<td>1.81 (1.100–3.045)</td>
</tr>
<tr>
<td>Current living situation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents or other family members</td>
<td>1.00 (ref.)</td>
<td>1.00 (ref.)</td>
</tr>
<tr>
<td>Other people</td>
<td>1.00 (0.565–1.767)</td>
<td>0.92 (0.544–1.542)</td>
</tr>
<tr>
<td>Alone</td>
<td>3.36 (1.496–8.292)</td>
<td>2.35 (1.013–5.780)</td>
</tr>
<tr>
<td>Steady sexual partner in the previous 3 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1.00 (ref.)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0.57 (0.394–0.823)</td>
<td></td>
</tr>
<tr>
<td>Receptive anal sex with a steady or casual partner in the previous 3 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No partners or no passive anal sex</td>
<td>1.00 (ref.)</td>
<td></td>
</tr>
<tr>
<td>Passive anal sex</td>
<td>1.53 (1.021–2.294)</td>
<td></td>
</tr>
<tr>
<td>Frequent oral sex with steady partners in previous 3 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1.00 (ref.)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2.84 (1.081–8.857)</td>
<td></td>
</tr>
</tbody>
</table>

Table Legend:
Conclusions and lessons learned

❖ High HIVST uptake before the pandemic, and the main target group for the kits was the participants’ friends and sexual partners.

❖ However, uptake decreased during the pandemic, with a shift toward greater use of self-testing by the participants themselves;

❖ During a health crisis, the expansion of HIVST in PrEP services can help expand the HIV testing in key populations by facilitating clinical follow-up

❖ Investments already made in demand creation, and online social media platforms for adolescents by the PrEP1519 project, allowed the rapid shift to more complete telehealth services and HIVST delivery due to COVID-19 pandemic;

❖ However, adolescentes TGW had a lower uptake, highlighting the need to make efforts to reach this population;

❖ These experiences offer important lessons for other middle-income countries scaling up HIVST among adolescents.
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