Impact of peer referral on PrEP adherence and persistence among GBMSM: A Cohort study in China

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PrEP and PrEP in China

Proportional change in annual number of new adult HIV infections among selected populations between 2010 and 2022

-35 -30 -25 -20 -15 -10 -5 0 5 10 15 20
Change in number of new HIV infections, 2010 to 2022 (per cent)

(A) Global

Gay men and other men who have sex with men
Transgender people
People who inject drugs
Clients of female sex workers
Partners of key populations
Other
Adults (15–49 years)
Men (15–49 years)
Women (15–49 years)

PrEP efficacy depends on PrEP adherence, and PrEP persistence is a prerequisite for adherence

China approved Truvada for PrEP in 2020

Adherence among GBMSM in China is only 32%, and there is no data on the persistence of PrEP in China


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PrEP and PrEP in China

Barriers to promoting PrEP adherence and persistence

High Cost of PrEP
PrEP is sold at 2000 CNY (~300 USD) per 30 pills — a price point perceived as unacceptable for most participants

PrEP Stigma
PrEP users are commonly stereotyped as sexually irresponsible, promiscuous, and immoral, and these stereotypes and associated prejudices undermine adherence to PrEP and contribute to its discontinuation

Uncertainty About PrEP Efficacy and Side Effects
MSM who were more concerned about side effects had a lower medication rate (p = 0.0208)

Peer Referral

- **Peer referral**
  - a social network-based approach utilizes peers to reach out to and recruit members from their social networks for health services

- **Peer-referred people**
  - receive psychosocial support from their peers
  - reduce HIV discrimination & stigma
  - facilitate the uptake of HIV prevention services

- **Peer influence has great potential to promote PrEP adherence and persistence.**
  - peers providing PrEP-related information and support
  - peer experiences increased confidence of PrEP use

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**Peer referral strategy in HIV research**

1. **Increase HIV testing and counseling (HTC)**
   - Increase HIV testing and counseling (HTC)

2. **Identify undiagnosed HIV-infected people**
   - Identify undiagnosed HIV-infected people

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The cohort study is part of
A Phase IV Clinical Trial supported by Gilead in China
(aimed to recruit 1200 GBMSM)
The cohort study

Peer referral recruitment strategy
The cohort study

Online survey through SoJump

Collecting information on sociodemographics, sexual behavior, HIV testing, and PrEP use, etc

GBMSM in Guangzhou, Guangdong and Wuhan, Hubei
PrEP adherence (self-report)
• Daily users: take ≥4 pills in the past 7 days;
• Event-driven users: take 2+1+1 doses ≥75% of the time in the past 30 days.

PrEP persistence (Prescription)
• The time from PrEP initiation to the first discontinuation (No longer in possession of TDF-FTC > 30 days).
The cohort study

Data collection and analysis

Data collection for this study
- From September 2021 to December 2023, collected at months 0, 3, and 6.

Data analysis
- PrEP adherence: GEE, where the model fits with log-links, Poisson distributions, and robust standard errors.
Results

121 participants (10.7%) were referred by peers

Socio-demographic characteristics of enrolled GBMSM on PrEP (N=1131)

- **Age**: mean age 27.6 ± 5.8 years
- **Highest level of education**: mainly college and above (95%)
- **Marital status**: 95% of participants were single
- **Monthly income**: <$700 (37%), $700-$1,400 (37%), >$1,400 (26%)
### Results

**Comparison of Peer-referred GBMSM and Non-peer-referred GBMSM**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Total (N=1131)</th>
<th>Peer-referred GBMSM (N=121)</th>
<th>Non-peer-referred GBMSM (N=1010)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;35</td>
<td>1003 (88.7%)</td>
<td>116 (95.9%)</td>
<td>887 (87.8%)</td>
<td>0.01</td>
</tr>
<tr>
<td>≥35</td>
<td>128 (11.3%)</td>
<td>5 (4.1%)</td>
<td>123 (12.2%)</td>
<td></td>
</tr>
<tr>
<td>Educational level</td>
<td></td>
<td></td>
<td></td>
<td>0.04</td>
</tr>
<tr>
<td>High school and below</td>
<td>60 (5.3%)</td>
<td>11 (9.1%)</td>
<td>49 (4.9%)</td>
<td></td>
</tr>
<tr>
<td>College and above</td>
<td>1071 (94.7%)</td>
<td>110 (90.9%)</td>
<td>961 (95.1%)</td>
<td></td>
</tr>
<tr>
<td>Condomless sex</td>
<td></td>
<td></td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td>No</td>
<td>339 (30.0%)</td>
<td>24 (19.8%)</td>
<td>315 (31.2%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>792 (70.0%)</td>
<td>97 (80.2%)</td>
<td>695 (68.8%)</td>
<td></td>
</tr>
</tbody>
</table>

Peer referral was more likely to recruit participants:

- Age younger than 35 years (Peer referred GBMSM: 96% VS. Non-peer-referred GBMSM: 88%).
- High school degree or less (Peer referred GBMSM: 9% VS. Non-peer-referred GBMSM: 5%).
- Had condomless sex in the last 3 m (Peer referred GBMSM: 80% VS. Non-peer-referred GBMSM: 69%).
Results

Impact of peer referral on PrEP adherence

- PrEP adherence declined over time for both groups.
- Compared with non-peer-referred GBMSM, peer-referred GBMSM were more likely to be adherent (aRR=1.11, 95% CI: 1.01-1.22).
Results

Impact of peer referral on PrEP persistence

- At month 6 of follow-up, 82.6% and 70.5% of peer-referred participants and non-peer-referred participants persisted with PrEP, respectively.

- Non-peer-referred participants were more likely to discontinue PrEP than peer-referred users (aHR=1.84, 95% CI: 1.18-2.87).
Key Findings

• Peer referral can be used as a strategy to promote PrEP

• Peer referral can reach GBMSM with greater HIV risk (e.g., condomless sex).

• Adherence is marginally better in GBMSM who recruited by the peer-referral strategy

• And peer referral is associated with PrEP persistence.
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- University of Chicago

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