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Ending AIDS as a Public Health Threat: The Power of Change

MAY 9-11, 2016 • FORT LAUDERDALE

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PIM
Postgraduate Institute for Medicine
Changing Attitudes Toward PrEP among Sexually Risky Men who have Sex with Men

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Clinical Trial Evidence for Oral and Topical TDF-Based Prevention

Effectiveness (%)

- Serodiscordant couples
  - Partners PrEP—daily oral TDF/FTC (Discordant couples—Kenya, Uganda)
  - Partners PrEP—daily oral tenofovir (Discordant couples—Kenya, Uganda)
  - iPrEx—daily oral TDF/FTC (MSM—North and South America, Thailand, South Africa)

- MSM
  - PROUD—daily TDF/FTC (MSM—UK)
  - IPERGAY—intermittent TDF/FTC (MSM—France, Canada)

- Heterosexual men and women
  - TDF2—daily TDF/FTC (Heterosexual men and women—Botswana)
  - CAPRISA 004—“BAT-24” dosing vaginal TDF gel (Women—South Africa)
  - FACTS 001—“BAT 24” dosing vaginal TDF gel (Women—South Africa)
  - MTN 003/VOICE—daily vaginal dosing tenofovir gel (Women—South Africa, Uganda, Zimbabwe)

- Heterosexual women
  - FEM-PrEP—daily oral TDF/FTC (Women—Kenya, South Africa, Tanzania)
  - MTN 003/VOICE—daily oral TDF/FTC (Women—South Africa, Uganda, Zimbabwe)

- People who inject drugs
  - Bangkok TDF study—daily oral TDF (IDUs—Thailand)

Effect Size (95% CI)

- 75% (55-87)
- 67% (44-81)
- 44% (15-63)
- 86% (58-96) (90% CI)
- 86% (40-98)
- 62% (22-84)
- 39% (6-60)
- 0% (-1 to 2)
- 15% (-21 to 40)
- 6% (-52 to 41)
- -4% (-49 to 27)
- -49% (-129 to 3)
- 49% (10-72)

PROUD Study: Results

- Significantly fewer new HIV infections with immediate versus deferred PrEP (3 versus 20 cases)
  - 86% reduction ($P=0.0002$)
- Incident HIV infection in the immediate group
  - HIV infection predated start of ART (n=1)
  - No drug/not adherent (n=2)
- Number needed to treat to prevent 1 HIV infection: 13

PrEP Is Effective: Adherence Is Critical


Pearson correlation: \(0.86 (P=0.003)\).
PrEP in the Media

The New York Times

Daily Pill Greatly Lowers AIDS Risk, Study Finds
By DONALD O. McNEIL Jr.  NOV. 23, 2010
Healthy gay men who took an anti-AIDS pill every day were well protected against contracting H.I.V. in a study suggesting that a new weapon against the epidemic has emerged.

iPrEx Study

The Washington Post

To Your Health
In new study, 100 percent of participants taking HIV prevention pill Truvada remained infection-free

By Ariana Eunjung Cha  September 4, 2015
As far as emotions go, AIDS researchers tend to be a staid bunch who look skeptically at every new finding. But the results of a study released this week on an HIV prevention drug have many cheering.
Barriers to PrEP among MSM include:

- HIV-related stigma,
  - (Oldenburg, Perez-Brumer, et al., 2015; Taylor et al., 2013)

- Perceived promiscuity,
  - (Calabrese & Underhill, 2015)

- Substance use
  - (Taylor et al., 2013; Van der Elst et al., 2013)

- PrEP uptake rates vary by geographic location
  - (Haire, 2015; Hood et al., 2016; Kelley et al., 2015)

- No differences on willingness to take PrEP among sexual risky MSM based upon background and demographic characteristics
  - (Grov C, Whitfield, Rendina, Ventuneac, Parsons, 2015)
Purpose of this Analysis

- To examine differing attitudes toward PrEP among MSM within subjects over time.
- To examine differing attitudes toward PrEP among MSM between subjects over time.
- To identify correlates of positive attitudes toward PrEP.
Study Design


Longitudinal
- Wave 1: Baseline
- Wave 2: 3 months post baseline

Office Visits
- HIV Testing and Counseling
- CASI Questionnaires

Retention Rate: 66%
- Wave 1: 199 enrolled
- Wave 2: 131 retained
- No significant differences
Perceived Effectiveness of PrEP

(0) Not at all effective
(1) Slightly effective
(2) Moderately effective
(3) Very effective
(4) Extremely effective
Don’t know

PrEP as a potential prevention strategy is...

(1) An excellent idea
(2) A good idea
(3) A fair idea
(4) A poor idea
Don’t know
Assessments

Demographics

Mental Health (PHQ)
- Depression
- Panic Disorder

Substance Use Disorders (MINI)
Alcohol Use (CAGE)

Trauma Related Measures
- CSA (Adapted from THRIVE clinical interview)
- IPV (Adapted from HPTN 061)
- HIV Stigma Scale

Social Support Scale
Inclusion Criteria

- 18 years or older
- HIV-uninfected
- No current use of PrEP
- Sexual Risk Behaviors
  - 4 or more male anal sex partners in past 6 months
  - Condomless anal sex with a HIV-positive or status unknown male partner in past 6 months
  - Exchange of money, gifts, shelter, or drugs for sex with male partner in past 6 months
Participants
Completed Baseline (n = 199)

Demographics

<table>
<thead>
<tr>
<th>Age (SD)</th>
<th>36.9 (11.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>66%</td>
</tr>
<tr>
<td>Black</td>
<td>20%</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>16.0%</td>
</tr>
</tbody>
</table>

Sexual Orientation

| Gay          | 76.6% |
| Hetero      | 4.3%  |
| Bi          | 18.5% |
| Other       | 2.0%  |
## Results

### Longitudinal Mean Comparisons

#### PrEP as good HIV Prevention Strategy (n = 131)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>3 month F/U</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>1.95 (.87)</td>
<td>2.04 (1.0)</td>
</tr>
<tr>
<td><strong>t (130)</strong></td>
<td>-1.43</td>
<td>Not Significant</td>
</tr>
<tr>
<td><strong>p</strong></td>
<td>.15</td>
<td></td>
</tr>
</tbody>
</table>

#### PrEP as Effective (n = 125)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>3 month F/U</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>2.36 (.94)</td>
<td>2.83 (1.2)</td>
</tr>
<tr>
<td><strong>t (124)</strong></td>
<td>-3.74</td>
<td>Significant</td>
</tr>
<tr>
<td><strong>p</strong></td>
<td>&lt; .001</td>
<td></td>
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</table>
Results

Cross Sectional Mean Comparisons

**PrEP as good HIV Prevention Strategy**

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Sample Size</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Rating</th>
<th>t (df)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/2012 – 3/2013</td>
<td>n = 116</td>
<td>2.07</td>
<td>0.89</td>
<td>“good prevention”</td>
<td>-1.98</td>
<td>0.049</td>
</tr>
<tr>
<td>4/2013 – 4/2014</td>
<td>n = 81</td>
<td>1.82</td>
<td>0.82</td>
<td>“good/excellent prevention”</td>
<td>Significant</td>
<td></td>
</tr>
</tbody>
</table>

**PrEP as Effective**

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Sample Size</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Rating</th>
<th>t (df)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/2012 – 3/2013</td>
<td>n = 116</td>
<td>2.13</td>
<td>1.08</td>
<td>“moderately effective”</td>
<td>-3.35</td>
<td>0.001</td>
</tr>
<tr>
<td>4/2013 – 4/2014</td>
<td>n = 81</td>
<td>2.66</td>
<td>0.81</td>
<td>“very effective”</td>
<td>Significant</td>
<td></td>
</tr>
</tbody>
</table>
Results

**Significant Correlates of PrEP as good HIV Prevention Strategy**
- Substance Use Disorders (better)
- CSA (Adolescence) (worse)
- Sexual IPV (worse)

**Significant Correlates of PrEP as Effective**
- Social Support (positively)
- Alcohol Abuse (CAGE) (negatively)
- HIV Stigma (negatively)
Limitations

- Findings derived from a community based convenience sample and may not be broadly generalizable
- Sample size for those recruited during the final year of accrual is modest and power to detect some relationships may not have been adequate
- All assessments were based upon self report and are vulnerable to the biases of that methodology
- The context in which PrEP is perceived and evaluated is ever changing and data collected 18 months ago may not accurately reflect current perceptions
Conclusions

View PrEP as an HIV Prevention Strategy

- Initial evidence suggests that sexually risky MSM view PrEP more positively over time
- More likely to view PrEP as a good prevention strategy
- MSM who report sexual trauma as adolescents or adults view PrEP as a potential HIV prevention strategy significantly less positively.
- MSM with substance use disorders view PrEP as a potential HIV prevention strategy significantly more positively.
Conclusions
View PrEP as Effective

- Initial evidence suggests that sexually risky MSM view PrEP more positively over time
- More likely to view PrEP as effective

- MSM who abuse alcohol or who report higher perceived HIV stigma view PrEP as significantly less effective

- MSM who report higher levels of social support view PrEP as significantly more effective
Conclusions

MSM view PrEP more positively over time (more likely to view it as effective and more likely to consider it as a good HIV prevention strategy)

MSM who report higher levels of HIV social support and who have substance use disorders are more likely to view PrEP more positively than those who do not. Focused PrEP uptake programs may usefully focus on these subgroups of gay and bisexual men and may indicate the need for integrated treatment programs that address substance use among MSM considering PrEP.

MSM with sexual trauma, high levels of HIV stigma, and who abuse alcohol are less likely to view PrEP positively. This suggests that PrEP education programs in these subgroups may benefit MSM.
Collaborators

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