Assessing Pre-exposure Prophylaxis Knowledge, Attitudes, and Potential Uptake among Adolescents and Young Adults at High-Risk for HIV in Washington, DC

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69% of chlamydia infections and 59% of GC infections among 15-24 yr. olds

Local prevention efforts targeting youth include:

- Condom distribution
- School-based STD screening program
- Educational efforts focused on HIV prevention
PrEP Among Youth and Young Adults

- Unique prevention issues in this population (Rudy et al)
- Qualitative data show mixed results regarding interest, concerns, and preferences of young adults (Smith et al)
- Project PrEPare found high acceptability but low adherence among YMSM (Hosek et al)

DC PrEP Studies:
- HPTN 069- Phase II, Maraviroc in MSM
- HPTN 073-Black MSM
- ATN 110- Truvada among YMSM
- DC DOH HAHSTA Medicaid Demonstration Project
- WWH PrEP Demonstration Project

Study Objective

To measure PrEP knowledge, acceptability, and potential use among sexually-active, clinic-attending adolescents and young adults in Washington, DC
Study Methods

Â Focus groups among MSM, high-risk heterosexuals, adolescents
Â Conducted survey at 3 clinic sites in DC
   ï WWH Gay Men’s Health and Wellness Clinic
   ï DC Dept of Health Southeast STD Clinic
   ï CNMC Goldberg Adolescent Clinic
Â Self-administered web-based surveys completed on iPads
Results: Survey Eligibility and Recruitment

Eligibility criteria:
- 13 or older
- Self-reported HIV negative
- Had sex in last 6 months
- Able to complete survey in English
- Able to provide informed consent with waiver of parental consent for minors
Analytic Methods

Å Captured information regarding:
  ï Participant demographics
  ï HIV risk behaviors
  ï Health-seeking behaviors
  ï PrEP knowledge, experience, acceptability, and potential uptake

Å Calculated descriptive statistics
Å Conducted bivariate and ordinal logistic regression analyses to identify differences in willingness to use PrEP by age group
Age Distribution by Recruitment Site

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Adol</th>
<th>WWH</th>
<th>STD</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-24</td>
<td>32%</td>
<td>13%</td>
<td>55%</td>
</tr>
<tr>
<td>≥25</td>
<td>36%</td>
<td>64%</td>
<td></td>
</tr>
<tr>
<td>Characteristic</td>
<td>14-24 yrs N (%)</td>
<td>≥25 years N (%)</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td></td>
</tr>
<tr>
<td>Median age (range)</td>
<td>20 (14-24)</td>
<td>37 (25-66)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>54 (41)</td>
<td>111 (31)</td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>106 (80)</td>
<td>106 (66)</td>
<td></td>
</tr>
<tr>
<td>Insurance: public</td>
<td>71 (53)</td>
<td>62 (39)</td>
<td></td>
</tr>
<tr>
<td>Regular healthcare provider</td>
<td>83 (62)</td>
<td>96 (60)</td>
<td></td>
</tr>
<tr>
<td>Location for receipt of healthcare: community health center</td>
<td>35 (26)</td>
<td>67 (42)</td>
<td></td>
</tr>
<tr>
<td>Number of healthcare visits in last year: 1-4</td>
<td>102 (77)</td>
<td>119 (74)</td>
<td></td>
</tr>
</tbody>
</table>
### HIV Risk Factors and Behaviors (N=293)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>14-24 yrs N (%)</th>
<th>≥25 yrs N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sexual behavior</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homosexual/bisexual male</td>
<td>23 (42)</td>
<td>44 (40)</td>
</tr>
<tr>
<td>Heterosexual male</td>
<td>32 (58)</td>
<td>65 (59)</td>
</tr>
<tr>
<td>Heterosexual/bisexual female</td>
<td>70 (90)</td>
<td>44 (90)</td>
</tr>
<tr>
<td>In a committed relationship</td>
<td>80 (61)</td>
<td>94 (60)</td>
</tr>
<tr>
<td><strong>Number of main sex partners (median, range)</strong></td>
<td>1 (0-15)</td>
<td>1 (0-33)</td>
</tr>
<tr>
<td><strong>Number of casual sex partners (median, range)</strong></td>
<td>1 (0-35)</td>
<td>2 (0-30)</td>
</tr>
<tr>
<td>Injected drugs</td>
<td>0 (0)</td>
<td>7 (4)</td>
</tr>
<tr>
<td>Used condoms: most of time/always</td>
<td>66 (50)</td>
<td>76 (48)</td>
</tr>
<tr>
<td>Knew sex partners’ HIV status: most of time/always</td>
<td>71 (58)</td>
<td>84 (58)</td>
</tr>
<tr>
<td>Self-reported HIV risk: none-low</td>
<td>94 (71)</td>
<td>98 (61)</td>
</tr>
</tbody>
</table>
# Reported Medication Adherence Behaviors (N=97)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>14-24 yrs N (%)</th>
<th>≥25 yrs N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take a daily medication</td>
<td>38 (29)</td>
<td>59 (37)</td>
</tr>
<tr>
<td>Sometimes forget to take medication</td>
<td>26 (68)</td>
<td>37 (63)</td>
</tr>
<tr>
<td>Number of missed doses in past 14 days (median, range)</td>
<td>2 (0-14)</td>
<td>1.5 (0-14)</td>
</tr>
<tr>
<td>Ever stopped medication due to side effects or feeling worse</td>
<td>10 (26)</td>
<td>19 (33)</td>
</tr>
<tr>
<td>Didn’t tell HCP when cut back or stopped taking medication</td>
<td>12 (32)</td>
<td>19 (33)</td>
</tr>
</tbody>
</table>
Knowledge and Use of PEP and PrEP

- Heard of PEP
  - Age 14-24: 19%
  - Age 25-66: 28%
- Know Someone Who Has Used PEP
  - Age 14-24: 5%
  - Age 25-66: 9%
- Have Used PEP
  - Age 14-24: 2%
  - Age 25-66: 1%
- Heard of PrEP
  - Age 14-24: 7%
  - Age 25-66: 14%
- Know Someone Who Has Used PrEP
  - Age 14-24: 5%
  - Age 25-66: 3%
- Have Used PrEP
  - Age 14-24: 1%
  - Age 25-66: 0%
Most Reported Effective HIV Prevention Methods

**Most Effective Method Among Ages 13-24**
- Abstinence: 61%
- Using condoms: 32%
- Being monogamous: 4%
- HIV medications: 2%
- HIV vaccine: 1%

**Most Effective Method Among Ages ≥25**
- Abstinence: 56%
- Using condoms: 31%
- Being monogamous: 9%
- HIV vaccine: 2%
- No effective way is currently available: 1%
- HIV microbicides: 1%
Most Reported Preferred HIV Prevention Methods

Most Preferred Method Among Ages 13-24
- Using condoms 44%
- Being monogamous 14%
- Abstinence 25%
- HIV vaccine 14%
- Always being a "top" 1%
- Don't know 1%

Most Preferred Method Among Ages ≥25
- Using condoms 37%
- Being monogamous 19%
- Abstinence 12%
- HIV vaccine 23%
- Always being a "top" 4%
- Don't know 3%
- HIV medications 1%
- HIV microbicides 4%
# Willingness to Use PrEP

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>13-24 yrs N (%)</th>
<th>≥25 yrs N (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing to use PrEP if safe</td>
<td>99 (74)</td>
<td>128 (80)</td>
<td>0.22</td>
</tr>
<tr>
<td>Willing to use if few or no side effects</td>
<td><strong>83 (62)</strong></td>
<td><strong>125 (78)</strong></td>
<td><strong>0.02</strong></td>
</tr>
<tr>
<td>Willing to take as a daily pill</td>
<td>85 (64)</td>
<td>93 (58)</td>
<td>0.09</td>
</tr>
<tr>
<td>Would prefer to take after sex</td>
<td><strong>26 (20)</strong></td>
<td><strong>51 (32)</strong></td>
<td><strong>0.0004</strong></td>
</tr>
<tr>
<td>Difficult to use both condoms and daily PrEP (disagree)</td>
<td>86 (65)</td>
<td>91 (57)</td>
<td>0.12</td>
</tr>
<tr>
<td>Worry about what others would think if found out on PrEP</td>
<td>50 (38)</td>
<td>47 (30)</td>
<td>0.68</td>
</tr>
<tr>
<td>Would be ashamed to take daily PrEP</td>
<td>21 (16)</td>
<td>23 (14)</td>
<td>0.92</td>
</tr>
<tr>
<td>Willing to use if offered by a provider</td>
<td><strong>83 (62)</strong></td>
<td><strong>113 (71)</strong></td>
<td><strong>0.02</strong></td>
</tr>
<tr>
<td>Able to follow a provider’s instructions on PrEP</td>
<td><strong>90 (68)</strong></td>
<td><strong>123 (77)</strong></td>
<td><strong>0.03</strong></td>
</tr>
</tbody>
</table>
### Ordinal Logistic Regression: Willingness to Use PrEP

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>OR</th>
<th>95%CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willing to use PrEP if safe</td>
<td>1.3</td>
<td>(0.8, 2.0)</td>
</tr>
<tr>
<td><strong>Willing to use if few or no side effects</strong></td>
<td><strong>1.9</strong></td>
<td><strong>(1.3, 3.0)</strong></td>
</tr>
<tr>
<td>Willing to take as a daily pill</td>
<td>1.1</td>
<td>(0.6, 2.1)</td>
</tr>
<tr>
<td><strong>Would prefer to take after sex</strong></td>
<td><strong>1.8</strong></td>
<td><strong>(1.2, 2.7)</strong></td>
</tr>
<tr>
<td><strong>Would be useful to those unable to convince their partners to use condoms</strong></td>
<td><strong>1.5</strong></td>
<td><strong>(1.0, 2.3)</strong></td>
</tr>
<tr>
<td>Difficult to use both condoms and daily PrEP</td>
<td>1.4</td>
<td>(0.9, 2.1)</td>
</tr>
<tr>
<td>Worry about what others would think if found out on PrEP</td>
<td>1.0</td>
<td>(0.7, 1.5)</td>
</tr>
<tr>
<td>Would be ashamed to take daily PrEP</td>
<td>1.0</td>
<td>(0.7, 1.5)</td>
</tr>
<tr>
<td>Willing to use if offered by a provider</td>
<td>1.4</td>
<td>(0.9, 2.1)</td>
</tr>
<tr>
<td>Able to follow a provider’s instructions on PrEP</td>
<td>1.4</td>
<td>(0.9, 2.2)</td>
</tr>
</tbody>
</table>
Willingness to Use PrEP

**Å Cost**
- Willing to pay median $20/month
- Would take if free/insurance covered: 77% somewhat-very likely

**Å Future Use and Interest**
- Interested in learning more about PrEP: 82% agree
- Would participate in a PrEP research study: 30.0% very likely
Conclusions

- Youth generally accepting and open to learning more about PrEP
- Potential barriers: limited knowledge of PrEP and potential problems with adherence
- Results consistent with other studies documenting
  - Low levels of awareness but high levels of willingness to learn more (e.g. MSM, heterosexuals)
  - Youth interest due to cost and effectiveness but side effects as potential barrier (Smith et al)
  - DC youth FG: concerns regarding adherence
- Findings can inform educational initiatives, future studies, and scale-up of PrEP among this population
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Questions

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