Who opts for Daily versus On-Demand Pre-Exposure Prophylaxis?

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Adherence 2017: Miami
June 5th 2017
Session: Preference and Acceptance of PrEP
Background: PrEP regimens

• The efficacy of Pre-Exposure Prophylaxis (PrEP) for HIV taken either daily\textsuperscript{1,2} or on-demand\textsuperscript{3} (before and after sexual interactions) among Men who have Sex with Men (MSM) has been established in clinical trials

• Real-world data describing factors associated with decisions to take daily versus on-demand regimens is scarce

Study site: Clinique l’Actuel

- HIV Treatment
- Screening
- Post-Exposure Prophylaxis
- PrEP

Le condom a brisé?
Vous n’étiez pas protégé?

Tu es à risque?

© AP-HP

PASSER À TON MÉDECIN
Background: research/policy landmarks and trends in PrEP consultations at l’Actuel

From Jan. 2011–May 2017
1512 PrEP consultations (1415 prescriptions)

Number of consultations

Year

2011
2012
2013
2014
2015
2016
2017

Month

Jan
Feb
Mar
Apr
May
June
July
Aug
Sep
Oct
Nov
Dec

Number of consultations

0
10
20
30
40
50
60
70
80
90
100

iPrEx results
Grant et al. NEJM (2010)

FDA approval

Quebec Interim notice

PrEP clinic promotion

IPERGAY results
Molina et al. NEJM (2015)

Health Canada Notice of Compliance 2016/02/26
Methods

- Cross-sectional study
- Inclusion criteria:
  - Men who have sex with men (MSM), ages 18 +
  - HIV-Negative and assessed as high-risk for HIV by a clinic physician
  - PrEP consultation from March 1st, 2015 to February 1st, 2017
- Outcome: Decision to select Daily or On-Demand regimen
- Analysis:
  - Baseline characteristics were compared between individuals prescribed Daily and On-Demand using two-sided t-tests for continuous variables and chi-square tests for categorical variables.
  - Logistic regression models were used to calculate Odds Ratios (OR) with 95% Confidence Intervals (CIs) for prescription of On-demand versus Daily PrEP
  - We constructed univariate models and a multivariate model adjusted for age, education, revenue, indication of PrEP prescription and number of sexual partners in the last year
Baseline characteristics among Daily and On-Demand PrEP users

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>DAILY</th>
<th>ON-DEMAND</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (CI)</td>
<td>36.7 (10.3)</td>
<td>39.2 (10.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Education, N (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>6 (0.8%)</td>
<td>1 (0.5%)</td>
<td>0.44</td>
</tr>
<tr>
<td>Secondary</td>
<td>110 (14.9%)</td>
<td>24 (11.4%)</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>161 (21.8%)</td>
<td>42 (20%)</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>461 (62.5%)</td>
<td>143 (68.1%)</td>
<td></td>
</tr>
<tr>
<td>Annual revenue, N (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; $10 000</td>
<td>66 (8.8%)</td>
<td>15 (6.8%)</td>
<td>0.09</td>
</tr>
<tr>
<td>$10 001-20 000</td>
<td>73 (9.7%)</td>
<td>18 (8.1%)</td>
<td></td>
</tr>
<tr>
<td>$20 001-35 000</td>
<td>102 (13.6%)</td>
<td>21 (9.5%)</td>
<td></td>
</tr>
<tr>
<td>$35 001-55 000</td>
<td>178 (23.7%)</td>
<td>50 (22.6%)</td>
<td></td>
</tr>
<tr>
<td>$55 001-75 000</td>
<td>144 (19.1%)</td>
<td>40 (18.1%)</td>
<td></td>
</tr>
<tr>
<td>&gt; $75 000</td>
<td>189 (25.1%)</td>
<td>77 (34.8%)</td>
<td></td>
</tr>
<tr>
<td>Primary reason for seeking PrEP, N (%)*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAI</td>
<td>625 (73.9%)</td>
<td>202 (83.1%)</td>
<td>0.664</td>
</tr>
<tr>
<td>Multiple PEPs</td>
<td>47 (5.5%)</td>
<td>13 (5.3%)</td>
<td>0.732</td>
</tr>
<tr>
<td>Serodifferent couple</td>
<td>76 (9%)</td>
<td>10 (4.1%)</td>
<td>0.01</td>
</tr>
<tr>
<td># contacts in the last year, Mean (CI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular partners</td>
<td>3.2 (2.3-4.0)</td>
<td>2.2 (1.8-2.6)</td>
<td>0.23</td>
</tr>
<tr>
<td>Occasional partners</td>
<td>22.3 (17.7-26.8)</td>
<td>14.2 (12.2-16.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>TOTAL</td>
<td>848 (78%)</td>
<td>243 (22%)</td>
<td></td>
</tr>
</tbody>
</table>
## Associations between baseline factors and decision for On-Demand PrEP

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Univariate Odds Ratio</th>
<th>95% CI</th>
<th>Adjusted Odds Ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>1.02***</td>
<td>(1.01 - 1.04)</td>
<td>1.02**</td>
<td>(1.00 - 1.04)</td>
</tr>
<tr>
<td><strong>Total number of sex contacts in past 12 months (reg. + occasional)</strong></td>
<td>0.987***</td>
<td>(0.978 - 0.996)</td>
<td>0.98***</td>
<td>(0.98 - 0.99)</td>
</tr>
<tr>
<td><strong>Serodifferent partner</strong></td>
<td>0.44**</td>
<td>(0.22 - 0.86)</td>
<td>0.41**</td>
<td>(0.19 - 0.88)</td>
</tr>
</tbody>
</table>

### Education

<table>
<thead>
<tr>
<th>Education</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Secondary or below</td>
<td>Ref.</td>
<td>Ref.</td>
</tr>
<tr>
<td>College</td>
<td>1.21</td>
<td>(0.70 - 2.10)</td>
</tr>
<tr>
<td>University</td>
<td>1.44</td>
<td>(0.90 - 2.31)</td>
</tr>
</tbody>
</table>

### Annual income

<table>
<thead>
<tr>
<th>Annual income</th>
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</tr>
</thead>
<tbody>
<tr>
<td>&lt; $20 000</td>
<td>Ref.</td>
<td>Ref.</td>
</tr>
<tr>
<td>$ 20 001-35 000</td>
<td>0.87</td>
<td>(0.47 - 1.59)</td>
</tr>
<tr>
<td>$ 35 001-55 000</td>
<td>1.18</td>
<td>(0.72 - 1.94)</td>
</tr>
<tr>
<td>$ 55 0001-75 000</td>
<td>1.17</td>
<td>(0.70 - 1.96)</td>
</tr>
<tr>
<td>$ 75 000+</td>
<td>1.72**</td>
<td>(1.08 - 2.73)</td>
</tr>
</tbody>
</table>

*** p<0.01, ** p<0.05, * p<0.1
Discussion

• Younger patients were more likely to receive daily PrEP, which may be explained by behaviour profiles in line with daily use, such as spontaneous sex with multiple partners
• Older patients may tend to engage in planned sex, making on-demand PrEP an appropriate option

• Limitations
  • Data reflects the regimen decided on by both physician and patient, therefore initial patient preferences may have been changed based on the counseling they received during their consultation
  • Susceptible to reporting bias
  • Exploratory study only

• Longitudinal data to follow the pathways of patients once they initiate PrEP regimens, in terms of protocol compliance, switches and stops at our clinic can further inform us of differences between user profiles (See Adherence2017: Abstract #229, Beauchemin)
Significance

• Push for combined prevention measures is needed for all PrEP users regardless of regimen, as it has been shown that both groups report equal risks in terms of condomless anal intercourse at baseline

• Further research is needed to understand the best situations in which to prescribe On-Demand PrEP
Merci!

- Our patients
- Clinical team
- Epidemiology team
Supplementary data
PrEP treatment protocol at Actuel

1 - 3 months
Baseline

Follow-up
3 months

Follow-up
3 months

Follow-up
3 months

Initial visit intake form
- Patient section
- Nurse section
- Doctor section

Follow-up visit form
- Nurse section
- Doctor section

- History of STDs and sex life
- Prior ARV use
- Consent form for use of data
- Evaluation of patient’s needs
- Indication for prescribing PrEP
- Type of PrEP treatment
- Routine clinical work-up
- STD testing
- STD counselling

- Evaluation of TVD usage
- Evaluation of TVD adherence
- Evaluation of secondary effects
- Evaluation of sexual behaviour
- Baseline work-up
- STD testing
- STD counselling