Prevalence of High-Risk Behaviors and Anti-Retroviral Therapy Non-Adherence among HIV-Positive Men who Have Sex with Men who are Linked to Care

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INTRODUCTION

• Men who have sex with men (MSM) account for the majority of new HIV infections in the U.S.1
• Antiretroviral therapy (ART) non-adherence is associated with increased risk of HIV-disease progression, transmission, and development of resistance2,3
• High-risk sexual behaviors and recreational drug use may be associated with ART non-adherence2,4

OBJECTIVE

• Examine the prevalence of high-risk sexual behaviors and recreational drug use and their associations with ART non-adherence among a cohort of HIV-positive MSM who are linked to care

METHODS

Study design, setting, and population
• Cross-sectional study of HIV-positive MSM attending an HIV clinic at an academic medical center in Columbus, Ohio
• March 2015 – February 2016
• Eligibility
  • Male
  • HIV-positive
  • At least some college
  • Gay or bisexual
  • Recent UAI
  • Recent anonymous sex
  • Recent recreational drug use

Study measures
• Through a self-administered survey participants reported current ART use, ART adherence (number of doses missed in the previous 7 days), recent sexual behaviors (last 3 months), and recent recreational drug use (last 3 months)

Data management and analysis
• Survey data were captured using REDCap5
• All data were analyzed using SAS (Version 9.4, Cary, NC)
• Compared categorical variables using χ2 or Fisher’s exact tests; compared medians of continuous variables using Mann-Whitney tests

Ethical approval
• The study was approved by the Ohio State University Institutional Review Board (IRB)

RESULTS

Participant characteristics
• Among the 158 HIV-positive MSM enrolled, the median age was 43.5 (IQR: 33, 52)

Figure 1: Prevalence of characteristics of HIV-positive MSM who are linked to care (n = 158)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>86%</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>52%</td>
</tr>
<tr>
<td>At least some college</td>
<td>99%</td>
</tr>
<tr>
<td>Gay or bisexual</td>
<td>34%</td>
</tr>
<tr>
<td>Current main partner</td>
<td>92%</td>
</tr>
<tr>
<td>Recent UAI</td>
<td>98%</td>
</tr>
<tr>
<td>Recent anonymous sex</td>
<td>17%</td>
</tr>
<tr>
<td>Recent recreational drug use</td>
<td>56%</td>
</tr>
</tbody>
</table>

* Recent recreational drug use includes marijuana, MDMA (ecstasy), methamphetamine, cocaine, alkyl nitrates, and nitrous oxide

ART use and adherence
• 80% (n = 127) of participants reported currently being on ART
  • Among those taking ART, 82% (n = 104) reported never missing a dose in the previous 7 days

Figure 2: Unadjusted prevalence ratios (PRs) and 95% confidence intervals (CIs) of high-risk behaviors and ART non-adherence

<table>
<thead>
<tr>
<th>Behavior</th>
<th>PR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anonymous sex</td>
<td>1.24</td>
</tr>
<tr>
<td>UAI</td>
<td>1.77</td>
</tr>
<tr>
<td>Recreational drug use</td>
<td>1.71</td>
</tr>
</tbody>
</table>

CONCLUSIONS

• A high-proportion of HIV-positive MSM who are linked to care reported engaging in recent high-risk sexual behaviors such as anonymous sex and unprotected anal intercourse (UAI)
• Recent recreational drug use of marijuana, MDMA (ecstasy), methamphetamine, cocaine, alkyl nitrates, or nitrous oxide was common among this group of HIV-positive MSM
• Though not statistically significant, MSM engaging in high-risk behaviors such as UAI may have increased likelihood of ART non-adherence and subsequently increased risk of more rapid HIV disease progression, HIV transmission to susceptible partners, and development of ART resistance.

REFERENCES


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