Adherence to Pre-Exposure Prophylaxis (PrEP) Among Gay and Bisexual Men: Prevalence and Predictors of Missed Doses

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The prevalence of HIV for gay and bisexual men (GBM) continues to grow. GBM accounted for 65% of new diagnoses in 2013, a 12% increase since 2008.

The most promising prevention tool currently available is a once-daily pill called Truvada.
Introduction to once-daily PrEP

- Truvada, a mix of Emtricitabine and Tenofovir, is commonly called PrEP (Pre-Exposure Prophylaxis).

- When adherence of once-daily is met, PrEP has been shown to be as high as 95% effective in the prevention of HIV.

- However, demonstration projects have found adherence to be suboptimal.
Demonstration Studies

Most demonstration studies have used samples of sero-discordant heterosexual couples and female sex workers—samples commonly from Asian and African countries. Common reported rates vary from 75%-95%.

The 2010 Pre-exposure Prophylaxis Initiative (iPrEX) gave us our first look at PrEP adherence among gay and bisexual men (GBM). 93% self-reported correct adherence.

Other studies exploring adherence to PrEP, have reported correct adherence in self-report measures to be commonly around 90%.
Question:

What are the prevalence and predictors of missed doses of PrEP for GBM who are NOT part of a demonstration study?
Hypothesis

- Gay and bisexual men who are not part of a demonstration study and are taking PrEP at their own volition will have high rates of adherence.
Method
### One Thousand Strong:
Syndemics & Resilience for HIV Transmission in a National Sample of Vulnerable Men

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Methods

- Community Marketing and Insights (CMI)
- Eligibility
  - Live in U.S. with a permanent U.S. mailing address
  - 18 years and older
  - Biologically male and identify as male
  - Self-identify as gay/bi
  - English comprehension
  - Internet access
  - Device for taking digital pictures
  - Self-identify as HIV-negative and willing to complete at-home self-administered rapid HIV antibody, chlamydia, and gonorrhea testing.
  - Report having sex with another man in the past year
Data Collection

- At baseline, they were initially screened for eligibility then completed an at-home CASI, at-home HIV and STI testing, and a post-test CASI before becoming officially enrolled.

- Our final sample for One Thousand Strong consists of 1,071 HIV-self-identified GBM.

- Data for this study is limited to participants that completed a 6M follow-up at-home CASI, and reported currently being prescribed PrEP (6%, n=53).
Tell us about your adherence…

Participants reported demographics and answered questions about their PrEP adherence.

- In the last 30 days, on how many days did you miss a dose of your PrEP medication?
- In the last 90 days, on how many days did you miss a dose of your PrEP medication?
- How long ago was your last missed dose?
  - Had you used drugs/alcohol that day?
- Did you engage in any of the following sexual activities the day BEFORE you missed your medication?
- Did you engage in any of the following sexual activities the SAME day you missed your medication?
- Why do you think you missed that dose?
Results
PrEP Use at 6M Survey

- Of those who completed the 6M survey ($n = 950, 89\%$):

  - Currently Prescribed PrEP, 5.9%
  - Previously Prescribed PrEP, 1.3%
  - Never Prescribed PrEP, 92.8\%
Demographic Characteristics

Race/Ethnicity
- Black
- Latino
- White
- Other

Age
- 18-25
- 26-35
- 36-45
- 46+

Relationship Status
- Single
- In a Relationship

Education
- Less than BA
- BA or higher

Income
- < 20K
- 20 – 49K
- 50K+

N = 53
Mean Age = 37.89
Age Range = 20-65
Missed Doses in Prior 30 Days

74% (39) missed 0 doses
Missed Doses in Prior 90 Days

51% (27) missed 0 doses
Who missed doses?

- No significant differences were found for race/ethnicity, relationship status, or income.

- However, a greater portion of men with a college degree (77%) than without (23%) had missed a dose in the last 90 days; p<.05.

- Younger men were more likely to report a missed dose, 32.96 vs. 42.63 years old; p<0.01.
Who missed doses? Cont…

- Drugs and Alcohol-

- 27% (n=7) of the 26 who missed a dose in the last 90 days reported having at least one drink the day of a missed dose. However, only 1 of those 7 had more than 2 drinks.

- 23% (n=5) of the 23 who missed a dose reported drug use the same day as missing a dose.
Reasons reported for missing doses

• The most common reported reasons for missing a dose were forgetting (50%, n=13) followed by being somewhere other than home (26.9%, n=7).

• 8% (n=2) reported missing because “I was drinking”.
Sexual Risk

• As for sexual behavior, only 2 (8%) participants (of 26) reported HIV transmission risk behavior (unprotected anal intercourse) either the day before or the day of a missed dose.
Discussion
Implications

- This study indicated that GBM who are taking PrEP of their own volition have relatively high adherence.

- Truvada has recently been shown to be effective in the prevention of HIV when taken at 3 doses a week. Thus, the participants in this sample likely had little potential exposure in the rare occasion that a dose was missed.
Limitations

- Data were collected via self-report follow-back measures. Other research has shown that this data collection technique for adherence may not be the most accurate.

- We did not collect any biomarkers as indicators of actual medication adherence.

- The sample is predominantly white.

- This sample, overall, is not high on substance use. High substance users should be researched for adherence patterns.
Remaining questions

- Using a larger sample, is there a trend in income, education, and mood that may lead some people to miss doses more frequently?

- Does ethnicity/race play a role in adherence for GBM who are on PrEP at their own volition?

- What tools/interventions can be implemented to help GBM remember to take their medication?

- Why do some GBM make the choice to go on PrEP whereas others do not?
Acknowledgements

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Thank you

For a copy of these slides or further questions, please email me at:

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