Determining the roles that illicit drugs, marijuana, and heavy drinking play in PrEP adherence among gay and bisexual men: Implications for Treatment

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Disclosure

- No Conflicts to Disclose
Things I don’t need to tell you

- What is PrEP?
- Who benefits from PrEP?
- What are the “bonus” benefits of PrEP?
- In order for PrEP to work, what must one do?
Is Daily PrEP adherence a Problem?

- {earlier}, One demonstration project with MSM and transgender women found only 52% of participants from San Francisco, 35% from Washington, DC, and 13.5% from Miami were taking their PrEP daily.
- Liu et al., 2016: 80.0% to 85.6% had protective levels (consistent with ≥4 doses/wk) at follow-up visits.
- Hoagland et al., 2017: After 4 weeks on PrEP, 94.1% had reported adherence levels (through DBS) of 2 or more doses per week, and 78% had 4 or more doses per week.
Is Daily PrEP adherence a Problem?

- Stigma about carrying around “HIV meds”
- Stigma about being sexually active (slut shaming, Truvada whore)
- Renewing the Rx every 30 days, insurance issues, not seeing doctor on time for renewal
- Traveling (planned and unplanned), changes to your routine
- Remembering to take a pill every day (you don’t get “sick” if you forget)
- What else?
What about Drugs and Alcohol?

- "Club" Drugs: Ketamine, Ecstasy, GHB, Coke, Meth
- Substantial research indicating that club drugs
  - Negatively impact HIV medication adherence for HIV-positive (HIV+) MSM,
  - use is associated with condomless anal sex (CAS) (both for HIV-neg and HIV+ MSM).

  - Thus Club drug use presents a dual risk for HIV transmission—it impacts HIV medication adherence (demonstrated in HIV+ MSM) and increases the odds of CAS (for HIV+ and HIV-neg MSM).
What about Drugs and Alcohol?

- “Heavy drinking:” 5 or more alcoholic drinks in one sitting. (i.e., getting drunk).
  - Negatively impacts medication adherence in HIV+ populations
  - Some studies have connected alcohol abuse with CAS
How might substances impact adherence?

- Partying through a scheduled dose
- Hung over or slept through a dose
- Being unexpectedly away from home/meds longer than anticipated (spent the night as a “trick’s” place)
What do the data tell us

- Surprisingly little with regard to PrEP (zip on marijuana)
- LOTS of medication adherence data among HIV+
  - But HIV+ populations may take more than one pill, at various times of the day.
  - Different sets of consequences for an HIV+ person missing a dose
Hold on a second...

- *I thought that PrEP was still effective even in the event of a missed dose? So, why do we care?*
  - Alternate dosing strategies.
  - Missed doses may be timed with substance use and sex without condoms. (A perfect storm?)
Club Drug Use and PrEP Adherence in Vulnerable Men R21DA039019

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Enrollment

- **Recruitment:**
  - Recruited via targeted sampling (online, gay hookup websites & apps, venue-based sampling, and social media)

- **Eligibility:**
  1. 18 years or older,
  2. Cisgender male
  3. Identify as gay or bisexual
  4. Taking PrEP for at least 30 days, but not via a research study
  5. Reside in the New York City area
  6. Have internet access (for study components, not discussed here)
  7. ~ Half targeted to be club drug users

*Note: No criteria around missed doses*
Study Procedures

- **Baseline assessment**
  - One-on-One Qualitative Interview (semi-structured)
  - Structured qualitative interview (Time line follow back) – Sex, Drugs, Alcohol, Adherence
  - Computerized survey

- **10 Week Prospective Assessment**
  - Twice weekly online diary (sex, drugs, alcohol, adherence)
  - Wisepill containers

- **Week 10 Follow up assessment**
  - Return Wisepill, debrief
Participants

- N = 104
  - 47 club drug users (2+ days of use in last 30)
  - 50 non-club drug users
  - 7 kinda club drug users (1 days in the last 30)
- Enrolled 2015 – 2016
- Mean age 32.5
- 63.5% on PrEP for less than 1 year
- Half were men of color
- Average of 1.6 missed PrEP doses in the 30 days prior (low!)
$N = 104$
Mean Age = 32.5, Range: 21-61
39% in a Relationship
94% gay identified

- **Employment**
  - Full-time
  - Unempl PT

- **Race/Ethnicity**
  - White
  - Latino
  - Black
  - Other

- **Education**
  - < Bachelor’s
  - ≥ Bachelor’s

- **Income**
  - < $20K
  - $20-49K
  - ≥ $50K/year

- **Club Drug Use**
  - Yes
  - No

- **Length of time on PrEP**
  - < 1 year
  - ≥ 1 year

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Substance use, last 30 days

Series 1

Heavy Drinking
Marijuana
Crack/Coke
Ecstasy
GHB
Meth
Ketamine
Using the baseline 30 day TLFB Interview
Multilevel logistic regression with random intercept
   - Specified missed PrEP as the day-level outcome.
Predictors included
   - Individual-level: Club drug user, Age, White race, College educated, and Relationship Status
   - Day-level: Illicit drug use, Marijuana use, and Heavy drinking
Results

- College education was the only significant individual-level factor (AOR = 0.46, \( p = -0.02 \))
  - Men with a college degree had lower odds of a missed PrEP dose on an average day.

- Day-level predictors indicated that using illicit drugs (AOR = 1.88, \( p = 0.04 \)) and marijuana (AOR = 1.89, \( p = 0.04 \)) were each independently associated with greater odds of a missed PrEP dose, while heavy drinking was not.
What you should take away

- Good News! PrEP Adherence was REALLY high
  - Much higher than some demonstration projects
  - Are *PrEP and Me* participants early (motivated) adopters?
What you should take away

- Not so good: Drug use and Marijuana nearly doubled the odds of missing a dose.
  - But PrEP is generally forgiving of the occasional missed dose
  - PrEP adherence counseling may need to include drug use.
  - Should Alternate Dosing strategies become “a thing,” we may need special considerations for Substance users
A word of caution

- Study visits concluded earlier this year and we still have a lot of data yet analyzed
  - Prospective twice weekly diaries (every day of the week was asked about)
  - Wisepill Data (hmm?)
  - Rich qualitative data 1-on-1 interviews at baseline
- NYC cis men only - We need data on trans men and trans women.
- Substance use can also interfere with treatment engagement (i.e., getting on PrEP in the first place)
Thank you

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