



Factors Associated with Retention and Adherence in a Comprehensive HIV Pre-Exposure Prophylaxis (PrEP) Clinic

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Background

- HIV pre-exposure prophylaxis, PrEP, adherence and retention have been found to be suboptimal, yet PrEP requires adequate adherence for efficacy¹
- Studies on PrEP have often focused largely on cisgender MSM, the population most heavily affected by HIV in the United States²
- There are healthcare disparities in PrEP with underrepresentation of diverse racial, ethnic and gender minorities in clinical care and research studies³

Objective

- To identify patient factors that impact retention and adherence in PrEP care in a PrEP patient population of diverse gender and racial/ethnic identities

Methods

- A retrospective chart review of EMR at University of Colorado Anschutz Medical Campus PrEP Clinic was conducted on all adult patients seen for and prescribed tenofovir-emtricitabine for PrEP from June 2018-June 2019
 - Demographic and HIV acquisition risk factors were captured including age, gender identify, race/ethnicity, sexual orientation, sexual practices, substance use, homelessness, insurance status
- Retention was defined as a PrEP clinic or lab visit every 90 days +/- 30 days, based on CDC guidelines of quarterly visits⁴, patients were excluded if PrEP care was initiated <90 days before end of study
 - Retention was analyzed by cross sectional analysis (rate ratio) and PWP gap-time regression (hazard ratio), sensitivity analysis performed using scaled-variance Poisson regression models
- Adherence was defined by pharmacy refill data obtained by chart review, by quantity and refill date, quantified using medication possession ratio (MPR)
 - MPR was expressed a percentage of medication in possession compared to total days the patient was observed in PrEP care during the one year study period, as shown in this figure:



- Patients were classified as adherent if MPR>80% in full analysis and >60% in MSM sub-analysis, based on previously defined PrEP adherence thresholds^{5,6}, Kruskal-Wallis tests used to compare characteristics

*Study was IRB exempt by the Colorado Multiple Institutional Review Board

Lower PrEP adherence was found in youth and incarcerated individuals, cisgender women & heterosexual individuals were less likely to be retained in PrEP Care

Results

- 122 patients were identified by chart review, 96 had sufficient data for follow-up and were included in at least one analysis
 - Majority were cis gender MSM (80%), 15% female, 5% transgender, 50% identified as either African American or Hispanic
 - Most identified as gay or bisexual (80%), most were ages 25-34, only half had private insurance
 - Many had risk factors for HIV including condomless sex in past 6 months (86%), substance use prior to sex (33%), history of STIs (38%) or partners living with HIV (47%)
- 43% of patient classified as retained in PrEP care (visits 90 +/- 30 days)
 - Individuals who self-identified as gay were more likely to be retained than those who identified as heterosexual (56% vs. 19%, Rate Ratio 3.01, 95% C.I. = [1.00, 9.1], p=0.05)
 - Transgender females were more likely to be retained than cisgender females (80% vs. 20%, Rate Ratio 4.8, 95% C.I. = [1.02, 22.5], p=0.045)
 - Though not statistically significant, African Americans were less likely to be retained (25%) vs. other racial/ethnic groups (50%)
- 46% of patients were classified as adherent (MPR>80%), increased to 61% if adherence was defined as MPR>60%
 - Adherence (MRP>60%) higher in the MSM subgroup at 65%
 - Lower adherence amongst individuals ever incarcerated as compared to those never incarcerated (median MPR = 35% and 80%, respectively, p < 0.01)
 - Age demonstrated a marginally significant effect on adherence (p=0.060), when comparing the 18-24 vs 35+ age groups

Discussion

- This retrospective review of one year of PrEP Clinic follow-up found lower PrEP adherence in youth and incarcerated individuals, while cisgender women and heterosexual individuals were less likely to be retained in care
 - Our study is unique in that it included diverse racial and ethnic groups with over half self-identified as African American or Hispanic
 - Additionally this study included underrepresented populations including cisgender women and heterosexual adults
 - We also looked at social determinates of health factors including homelessness, incarceration & insurance status
- Limitations of the study
 - Retrospective nature, some limited data if not included in the EMR
 - Cross sectional design of study did not allow for equal time for follow up for all patients resulting in a smaller sample size
 - May have limited representation of diverse groups
 - Provided a “snap shot” in time, but did not follow each patient for the same length of time depending on when they started care
- Future Directions
 - Follow up studies should include focus groups with incarcerated individuals, youth, heterosexual identified individuals and cisgender women to identify barriers to PrEP care in order to design interventions to address these barrier
 - PrEP studies including more diverse populations are needed to close gaps in PrEP care for diverse racial/ethnic & gender groups

References

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