



Gender-Based Violence and Post-traumatic Stress Disorder
Symptoms Predict PrEP Uptake and Persistence Failure among
Transgender and Non-Binary Persons in a PrEP Demonstration Project

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Background:

HIV prevalence rates among trans women in U.S. estimated 18–31% overall

- 44% among Black trans women
- 26% among Latinx trans women



Recent data suggested HIV rates are on rise for trans men (higher among trans men who have sex with cisgender men).

Very little current HIV prevalence data currently on nonbinary persons

Gender-based violence has been shown to be associated with HIV risk and poorer engagement in HIV care among TGNB persons.



Background

PrEP is part of the EHE 'Prevent' pillar for individuals with elevated risk for HIV exposure and lower rates of PrEP use

Uptake and persistence on PrEP has been low among TGNB individuals, especially among trans women of color

Many trans men who meet PrEP eligibility criteria, but report not receiving PrEP services.

Current need for PrEP interventions focused on PrEP uptake and persistence among among TGNB persons.





Background

- Parent Study *Trans PrEP (2017-2020)*: PrEP Linkage, adherence & pharmacology in transgender Persons (CHRP PR15-SD-021). PrEP RCT project focused on PrEP uptake, adherence, and possible hormone interactions among TGNB persons (NCT3086200, PI: Morris)
- Sub Study *PrEP Talk (2019-2020)*: Mixed Methods NIDA R21- Focused on better understanding social and structural risk and protective factors for uptake and adherence to pre-exposure prophylaxis (PrEP) in transgender women of color (R21DA044073, PI: Storholm)



Participant characteristics (N=172)

9 reported PrEP use/verified at baseline, 163 DBS samples collected at week 12 and 85 DBS samples collected at week 48 (study attrition rate of 51%)

The mean age was 31 years old with a range from 18 to 78 years old

26% self-identified as Hispanic/Latinx; 10% as non-Hispanic Black; 30% as non-Hispanic white; and 16% as multiracial

65% identified as transfeminine; 23% identified as transmasculine; and 18% non-binary/other

11% of the sample reported currently being in a stable relationship

78% some college or technical school beyond high school

The majority of participants (67%) had a monthly income of <\$1000

40% recruited from one of the three clinics located in academic medical centers and 60% from one of two community-based clinics in LA and SD



Mental health, substance use, and GBV (N=172)

43% reported moderate to severe depressive symptoms (PHQ-9)

39% reported multiple symptoms of PTSD (PTSD Checklist for DSM-5)

22% reported harmful, hazardous, or dependent drinking in past 12 months (AUDIT)

39% reported misusing drugs in the last 12 months (DAST-10)

65% reported experiencing gender-based discrimination (Testa & Bocking Gender Minority Stress and Resilience measure)

70% reported experiencing rejection from friends, family, partner, social groups based on gender (Testa & Bocking Gender Minority Stress and Resilience measure)

68% reported experiencing gender-based violence (Testa & Bocking Gender Minority Stress and Resilience measure)

51% reported having been threatened with physical harm; 43% reported having been physically assaulted; 30% reported having been sexually assaulted



Methods

- Goal was to determine which syndemic (mental health, substance use, and gender based-violence) factors would be associated with lower rates of PrEP uptake and persistence
- We assessed longitudinal PrEP adherence data from dried blood spots (DBS) collected from participants at week 12 (uptake) and week 48 (persistence)
- Participants were then categorized into three levels of PrEP use based on TDF levels 700+ fmol/punch at week 12 and week 48 of study: *low-low* ($n=36$), *high-low* ($n=84$), and *high-high* ($n=52$)



Methods

- Utilized a multinomial logistic regression approach with Monte Carlo integration to model the probability of being categorized into the low-low, high-low, and high-high PrEP outcome groups
- Predictor variables: Gender-related discrimination, rejection, and violence victimization, depressive and PTSD symptoms, alcohol and other drug use (based on syndemics theory)
- We controlled for age, race/ethnicity, gender identity, monthly income, education level, relationship status, baseline PrEP use, site of enrollment, and study condition



Model Findings:

- **There was a significant effect of gender-based violence (GBV) on failure to adopt PrEP**, i.e., those that reported more experiences of GBV were more likely to be low-low than they were to be high-high (beta=2.46, $p < .05$; OR=11.69, 95% CI=(1.57, 87.08))
- **There was a significant effect of reported PTSD symptoms on failure to persist on PrEP** when comparing high-low with high-high, i.e., those that reported more PTSD symptoms were more likely to be high-low (beta=0.76, $p < .05$; OR=2.13, 95% CI=1.17, 3.89)) than they were to be high-high



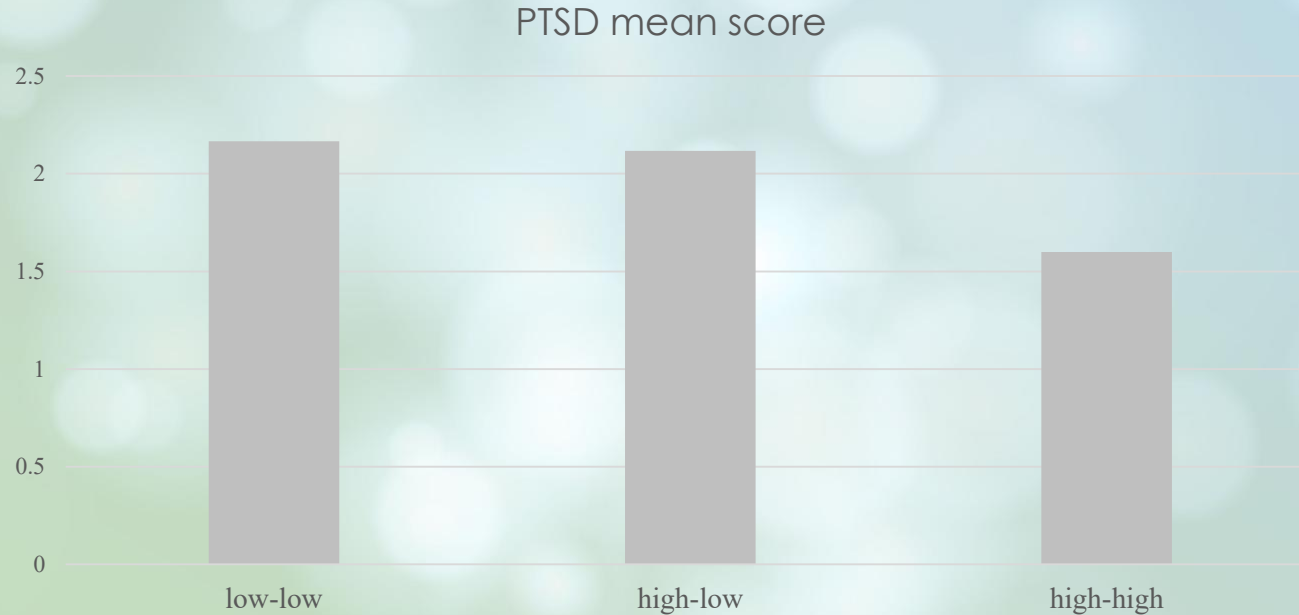
GBV victimization factor scores between PrEP persistence patterns of low-low (n=35) vs. high-low (n=83) vs. high-high (n=50).



Note. Difference between low-low and high-high significant, $p < .05$.



PTSD mean scores between PrEP persistence patterns of low-low (n=33) vs. high-low (n=81) vs. high-high (n=50)



Note. Difference between high-low and high-high significant, $p < .05$.



Summary

- Syndemic factors impacting PrEP are myriad and stand between TGNB individuals and PrEP uptake and persistence
- Among the syndemic factors affecting TGNB persons, **gender-based violence** and **PTSD symptoms** may be particularly important to address in our PrEP-focused interventions
- Multi-level, gender-affirming, and trauma-informed PrEP interventions need to be combined with mental health and other gender specific healthcare and violence prevention



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ORIGINAL PAPER



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