

What are the Risk Factors Affecting PrEP Utilization Among Black Cisgender Women Who Are At Higher Risk Of HIV Acquisition?

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Abstract

The HIV acquisition rate is disproportionately higher for cisgender black women in the United States. The first pre-exposure prophylaxis drug used for the prevention of HIV was approved by the FDA in 2012. Yet, empirical data confirms that cisgender black women in the United States have a much lower use of PrEP. This systematic literature review examines factors that hinder PrEP use among cisgender black women.

A total of 185 articles were obtained from three medical databases. A PRISMA flow diagram was developed for identification, screening, eligibility, and analysis (included literature after a full-text screening was conducted). 12 studies with a total of 974 participants, met the inclusion criteria for final analysis. 67% of the twelve studies were female-based studies, while 33% included both male and female participants. Despite having a disproportionately high risk of HIV infection, black women only represented 29% of the study participants.

The study outcomes confirmed a multitude of risk factors that serve as impediments in the use of PrEP among cisgender black women. The top three barriers were interpersonal factors, socio-economic factors, and stigma. Ultimately, the study also confirms that when these risk factors are identified and addressed, there is increased motivation to use PrEP among cisgender black women. This result, therefore, supports the need for further investigation.

Methods

A systematic literature search was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Figure 1).

Using PubMed, CINAHL, and Cochrane databases, the literature was searched for clinical research trials about risk factors affecting PrEP utilization among black cisgender women who are at high risk of HIV acquisition. The search was limited to studies conducted in the United States and published between 2012 and 2021.

The search strategy included: PrEP, Truvada, motivation, decision making, cisgender women, and black ethnicity.

185 articles were obtained from the systematic literature search. For the purpose of title and abstract screening, a Rayyan library was created. Study collaborators were initially blinded to limit bias. 172 were excluded and 13 full-text articles were accessed for eligibility. One was removed due to geographical location.

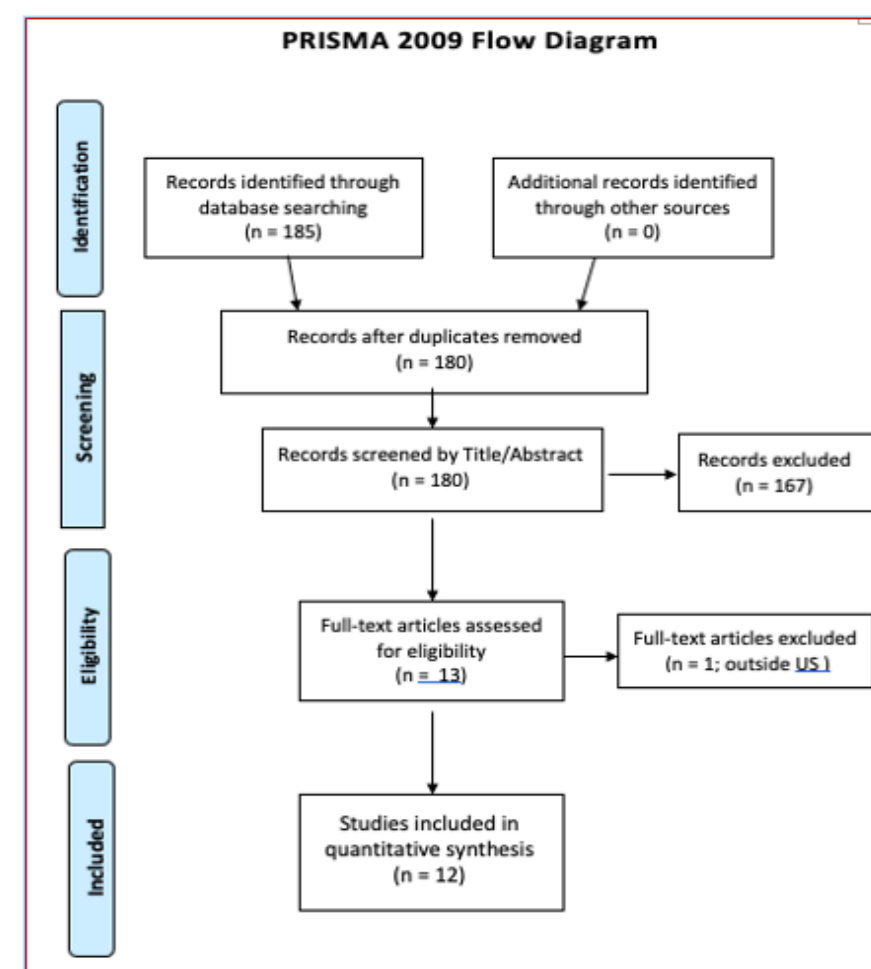


Figure 1. PRISMA Flow Diagram

12 studies involving 974 female participants met inclusion criteria for analysis (Table 1 and Table 2). Eight studies included females, three studies included males and females, and one study included males, females, and transgender women. Mixed gender studies were included in the analysis because of the availability of black cisgender female data. Seven studies were qualitative, three interventional, one mixed model, and one prospective cohort trial.

Table 1. Study Characteristics – Female Participants

Author & Year	Literature Title	Study Design/Description of Methods	Gender	Ethnicity (Black; White)	Barriers to PrEP
Amico et al., 2019	Perspectives of US Women Participating in a Candidate PrEP Study: Adherence, Acceptability and Future Use Intentions	Mixed Model: Computer-assisted self-interview (CAI) survey and qualitative in-depth, in-person interviews.	Females	83;14	Sexuality health communication stigma Adherence to PrEP Unemployment
Collier et al., 2021	A PrEP Information and Self-Screening Tool for Women	Quantitative: generic plain cards containing HIV prevention PrEP information about HIV prevention motivation with self-assessment questions about HIV risk: intentions, social groups	Females	21;0	Sexuality health communication stigma Knowledge of PrEP
Felsber et al., 2021	"PrEP just isn't my priority": Adherence challenges among women who inject drugs participating in a pre-exposure prophylaxis (PrEP) demonstration project in Philadelphia, PA USA.	Qualitative: Used the Behavioral Model for Vulnerable Populations (BMVP) to describe how the context of 23 women who inject drug (OWNID) lives challenged PrEP adherence; narrative data from in-depth interviews was used.	Females	3;16	Incarceration Substance use Low perceived risk of HIV Commercial sex work Adherence to PrEP Homelessness Unemployment Financial insecurity Structural factors
Przytyla et al., 2020	"I think everybody should take it if they're doing drugs, doing heroin, or having sex for money" prophylaxis among female participants in an opioid intervention court program.	Quantitative: Consensual qualitative research approach, semi-structured, in-depth interviews with women recruited from an Opioid Intervention Court program.	Females	Unknown	Unemployment Knowledge of PrEP Monogamy Sexuality stigma Incarceration Substance use Low perceived risk of HIV Trauma Adherence to PrEP Sexuality health communication stigma
Qin et al., 2021	"Women's Decision-Making about PrEP for HIV Prevention in Drug Treatment Contexts"	Interventional: Semi-structured interviews with women with (substance use disorder) SUD and key stakeholders at drug treatment centers	Females	2;12	Incarceration Substance use Low perceived risk of HIV Commercial sex work Intimate partner violence Trauma
Ramsey et al., 2021	"Linking Women Experiencing Incarceration to Community-Based HIV Pre-Exposure Prophylaxis Care: A Qualitative Study"	Qualitative: Individual semi-structured qualitative interviews with women experiencing incarceration (WIE) and key stakeholders	Females	4;15	Socio-economic Health insurance Structural factors Knowledge of PrEP Structural factors Sexuality health communication stigma sexuality stigma Incarceration Substance use Adherence to PrEP
Teitelman et al., 2019	"JustUS: a theory-based PrEP uptake intervention study for PrEP-eligible women in two highly affected U.S. cities shows favourable PrEP-use intentions but many barriers along the PrEP cascade."	Interventional: Used a theory-based intervention to promote PrEP initiation and adherence, in-person counselor-navigator sessions and follow-up phone calls.	Females	4;0	Financial insecurity Adherence to PrEP
Willie et al., 2020	"You Never Know What Could Happen": Women's Perspectives of Pre-Exposure Prophylaxis in the Context of Recent Intimate Partner Violence"	Prospective Cohort Study: Semi-structured interviews with women residing in Connecticut who participated in a prospective cohort study.	Females	10;3	Low perceived risk of HIV Intimate partner violence Monogamy

Table 2- Study Characteristics – Female, Male, and Transgender Participants

Author & Year	Literature Title	Study Design/Description of Methods	Gender	Ethnicity (Black; White)	Risk Factors
Aidoo-Frimpong et al., 2021	Factors Influencing Pre-exposure Prophylaxis Uptake Among Current Users: A Qualitative Study	Qualitative: Semi-structured in-depth interviews conducted by research team members focused on knowledge, uptake, adherence and attitudes towards PrEP.	Males & Females	Unknown;39	Sexuality health communication stigma Health insurance Knowledge of PrEP Family support Structural factors Health care factors
Fuch et al., 2021	"Intentions to use pre-exposure prophylaxis among current phase 2B preventive HIV-1 vaccine efficacy trial participants."	Quantitative: Anonymous web survey about PrEP	Males & Females	51;274	Health Insurance
McMahon et al., 2015	"Couple-based HIV counseling and testing: a risk reduction intervention for US drug-involved women and their primary male partners."	Interventional: Couple-based HIV counseling and testing prevention intervention.	Males & Females	77;7	Substance use Commercial sex work Financial insecurity Sero-discordant relationship
Rice et al., 2019	Assessing Pre-exposure Prophylaxis (PrEP): Perceptions of Current and Potential PrEP Users in Birmingham	Qualitative: Qualitative interviews with current and potential PrEP users in Birmingham, Alabama.	Males, Females & Transgender	29;2	Sexuality stigma Health insurance Knowledge of PrEP Cultural dynamics Structural factors

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Results

Black women have a disproportionately higher lifetime risk of the infection, 1 in 54 Black women compared to 1 in 256 Hispanic/Latina women and 1 in 941 White women.¹ Despite the disproportionately high risk of HIV infection, Black women only represented 29% of the study participants (Figure 2).

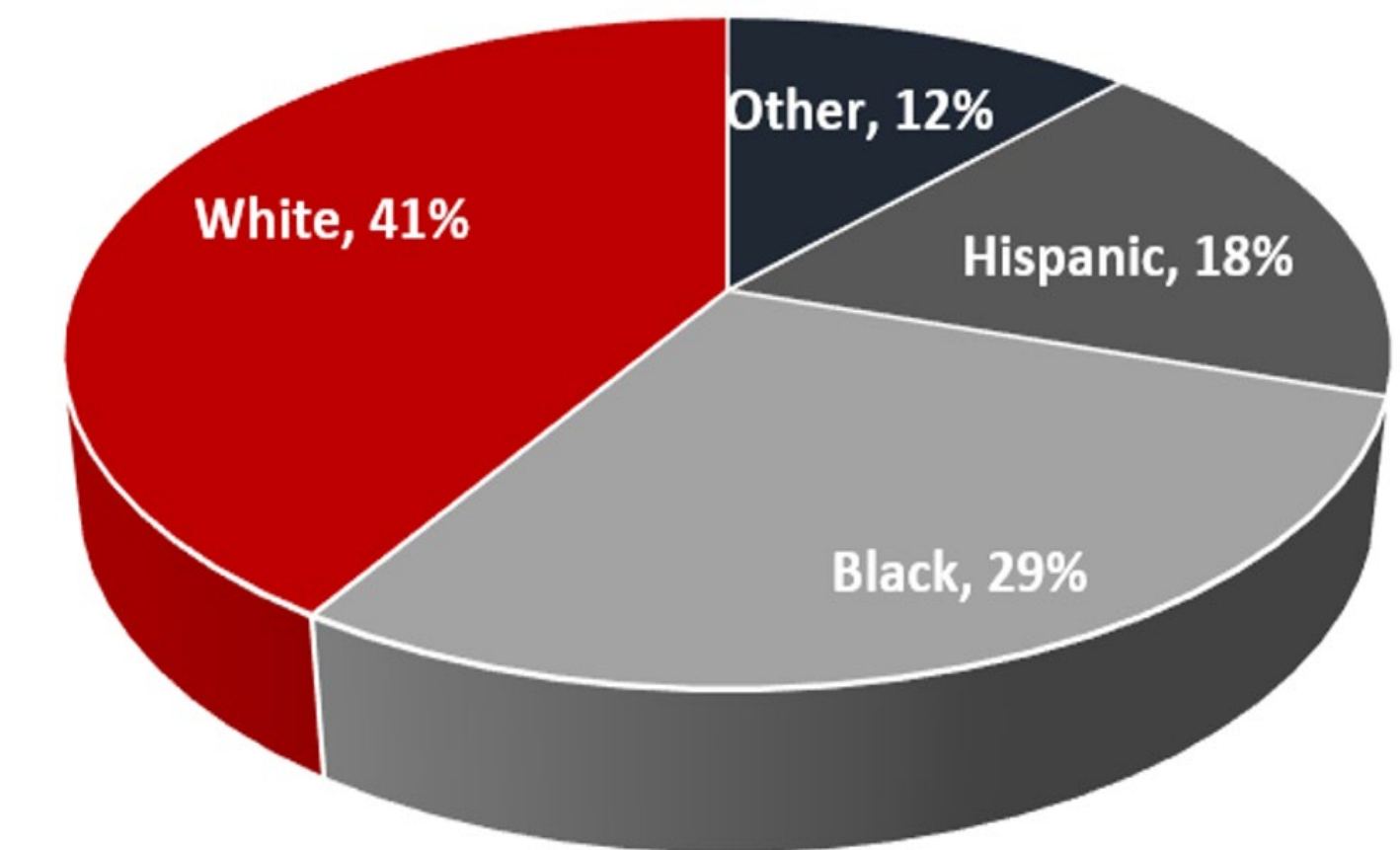


Figure 2. Ethnicity Composition of Study Participants

Analysis of all 12 articles showed that the top three risk factors to low PrEP use (according to rank order) were interpersonal, socio-economic, and stigma factors. The top three risk factor categories remained the same when the 8 female participant articles were analyzed compared to the all 12 studies. The difference occurred during the sub-category rank. For the socio-economic risk factor category, the first sub-category rank for all studies identified healthcare and health insurance. When the 8 female participant articles were analyzed, the first sub-category rank was unemployment (Figure 3).

Studies	Risk Factors to PrEP Use in HIV		
	INTERPERSONAL	SOCIO-ECONOMIC	STIGMA
12 Studies (All)	Adherence to PrEP	Healthcare / Health Insurance	Sexual Health Communication Stigma
8 Studies (Females Only)	Adherence to PrEP	Unemployment	Sexual Health Communication Stigma

Figure 3. Top Three Risks to PrEP Use in HIV

Conclusions

The study outcomes confirmed a multitude of risk factors that serve as impediments in the use of PrEP. The data further proved that these risk factors were not always rigid but changed based on patient characteristics and external factors. The study also confirmed that when these risk factors are identified and addressed, the increased motivation to use PrEP among cisgender black women warrants further investigation.

References

1. Hess, K. L., et al. (2017). Lifetime risk of a diagnosis of HIV infection in the United States. *Annals of Epidemiology* 27(4): 238-243. <https://doi.org/10.1016/j.annepidem.2017.02.003>;