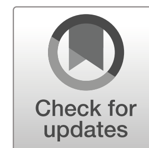
Journal of Racial and Ethnic Health Disparities (2020) 7:550–554
https://doi.org/10.1007/s40615-019-00683-9



Awareness and Intent to Use Pre-exposure Prophylaxis (PrEP) Among African American Women in a Family Planning Clinic

Amy K. Johnson [1,2,3] · Faith E. Fletcher [4] · Emily Ott [5] · Marisa Wishart [5] · Eleanor E. Friedman [6] · Jessica Terlikowski [3] · Sadia Haider [5]

Received: 19 August 2019 / Revised: 5 December 2019 / Accepted: 9 December 2019 / Published online: 17 December 2019
© W. Montague Cobb-NMA Health Institute 2019

Abstract
Due to the gap between cisgender women eligible for and those accessing pre-exposure prophylaxis (PrEP) for HIV prevention, it is critical to understand knowledge of and attitudes toward PrEP among HIV-vulnerable women. PrEP utilization is particularly low among African American women in the USA. Family planning clinics provide key access points to reach HIV-vulnerable African American women as well as to translate research findings into clinical practice. Our study aimed to (1) describe the awareness of and interest in PrEP among African American cisgender women attending a family planning clinic and (2) document the barriers and facilitators to PrEP uptake among these women. A cross-sectional survey was conducted with sexually active African American women of reproductive age attending a family planning clinic. Descriptive statistics were used to characterize the sample, and bivariate analysis was used to detect difference between categorical and outcome variables. In our survey ($N = 109$), over 80% of participants listed not knowing PrEP was available as the primary reason for not currently taking PrEP. Seventy percent reported they would probably or definitely like to take PrEP – demonstrating that barriers to uptake might stem from knowledge deficits rather than attitudes toward prevention. Study findings have the potential to inform strategies to increase awareness of PrEP as an HIV prevention option as well as to equip women with greater self-efficacy to access PrEP in family planning settings.

Keywords African American · Family planning · HIV prevention · Pre-exposure prophylaxis · Women

Introduction

Pre-exposure prophylaxis (PrEP) has the potential to become a key HIV prevention strategy for women [1, 2]. Approved by the Food and Drug Administration in 2012 for use by HIV-negative adult populations at increased risk of HIV, PrEP is 99% effective at preventing HIV when taken daily as prescribed [3]. Both private and state Medicaid plans in the USA cover the cost of PrEP; additionally, co-pay assistance is available from drug manufacturers (Gilead) and patient advocacy foundations [3]. Despite PrEP's demonstrated effectiveness, awareness and utilization are particularly low among African American women in the USA [4]. An estimated 468,000 women meet the clinical criteria for PrEP use, yet very few women are prescribed PrEP [5]. According to Gilead Sciences, in 2016, fewer than 2500 women accounted for all PrEP prescriptions provided by 82% of US pharmacies [5]. Despite comprising the majority of new HIV infections among women, African American women account for only 200 of the total number of women accessing PrEP through these pharmacies, highlighting disparities not only in gender but also in race/ethnicity [6].

It is critical to understand HIV risk within an ecological framework, positioning African American women within a

✉ Amy K. Johnson
akjohnson@luriechildrens.org

1 Division of Adolescent Medicine, Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, USA

2 Department of Pediatrics, Northwestern Feinberg School of Medicine, Chicago, IL, USA

3 AIDS Foundation of Chicago, Chicago, IL, USA

4 Department of Health Behavior, University of Alabama at Birmingham School of Public Health, Birmingham, AL, USA

5 Department of Obstetrics and Gynecology, University of Chicago, Chicago, IL, USA

6 The Chicago Center for HIV Elimination, University of Chicago, Chicago, IL, USA

broader context of influences (e.g., interpersonal, community, structural) [7]. Individual (e.g., barriers to assert male partner condom use, initiate female condom use, lack of awareness regarding safe sexual practices, other sexually transmitted infections (STIs)) and ecological factors (e.g., HIV/AIDS stigma and discrimination, neighborhood disadvantage, inadequate access to preventive services [8–10]) heighten African American women's vulnerability to HIV. Combined, these factors underscore the need to implement evidence-based HIV prevention methods that are "discrete, reliable, and woman-controlled" [10]. Thus, expanding targeted implementation of systems-level HIV prevention approaches for African American women is critical to reducing HIV-related health inequities [11].

Due to the gap between women eligible for and those accessing PrEP, it is critical to understand awareness of and attitudes toward PrEP among HIV-vulnerable, African American women. The term HIV-vulnerable refers to HIV-negative groups that have an increased risk of acquiring HIV. Previous work with HIV-vulnerable women provides evidence that family planning clinics provide key access points to reach women as well as translate research findings to clinical practice [12]. In fact, both the Centers for Disease Control and Prevention and the Office of Population Affairs identify HIV prevention, including PrEP provision, as a core family planning service [5]. A 2015 survey conducted by Seidman and colleagues is the first and only published study documenting family planning providers' knowledge and attitudes toward PrEP; results indicate that 38% correctly defined PrEP, highlighting the need for training and capacity building [13]. In the time since the Seidman study, many resources have been created to support family planning providers in implementing PrEP into clinic flows [12]. Research has documented awareness and acceptability of PrEP among patients in family planning clinics, yet information on barriers and facilitators of PrEP uptake, as well as intervention strategies, are scarce [14–16]. In 2017, Garfinkel and colleagues published the first study examining HIV risk perception and PrEP awareness among ethnically diverse female family planning patients [15]. Study findings revealed that PrEP acceptability was high with 60% of the sample ($n = 146$) indicating interest in PrEP [7]. There exists a need to further explore barriers and facilitators to PrEP uptake in family planning clinics, specifically among African American women, from both a qualitative and quantitative perspective. Our study aimed to (1) describe the awareness of and interest in PrEP among African American women in family planning clinics and (2) document the barriers and facilitators across ecologic levels (e.g., individual, community, structural) to PrEP uptake among these women. Study findings have the potential to inform strategies to increase awareness of and access to PrEP in family planning settings.

Methods

Data Collection

A cross-sectional survey was conducted with women attending the family planning clinic at the University of Chicago where PrEP is available for patients. Eligibility was as follows: self-identification as an African American or Black cisgender female, English speaking, between the ages of 18 and 45 years, and recent sexual activity. Informed consent was obtained from all individuals included in the study. After completing the study, participants received a $20 gift card and a list of local PrEP related resources. Survey data were collected and managed using REDCap electronic data capture tools. The Institutional Review Boards from the University of Chicago and Ann & Robert H. Lurie Children's Hospital of Chicago reviewed and approved the study. All study procedures were conducted in accordance with ethical standards as outlined in the 1964 Declaration of Helsinki.

The survey contained 120 items and was designed to capture information about PrEP awareness, intent, barriers, and facilitators to uptake, demographic, social needs, medical history, behavioral domains, and feedback on potential intervention strategies. Herein we report on a subset of survey items with awareness of PrEP and intent to take PrEP as outcome variables. The demographic characteristics measured included age and neighborhood; social needs were measured as whether or not the participant had difficulty paying for basic needs ("In the past 12 months, was there ever a time when you had trouble paying for your basic needs, such as food, housing, medical care or heating?"); and medical history included recent abortion history and STI testing. Sexual behavior was measured by a series of items assessing whether or not a behavior occurred (e.g., "Have you had vaginal intercourse in the past 3 months?"), HIV status of sexual partners, and whether or not the participant engaged in condomless sex. Self-perceived HIV risk was assessed with one item, specifically "I think my chances of getting HIV are", with response options of 0%, no chance I will get HIV, and 25%, 50%, 75%, and 100%, I definitely will get HIV. Intent to take PrEP was assessed with a single item, specifically, "knowing PrEP is highly effective in preventing HIV, how likely would you be to take it?" PrEP awareness was assessed via single item, "Prior to this study, had you heard of PrEP or the use of medication to prevent HIV infection?". Finally, participants were asked to explain their reasoning concerning their decision around taking or not taking PrEP. This item was recorded and transcribed verbatim.

Analysis

Descriptive statistics were used to characterize the sample, and bivariate analysis was used to detect differences between categorical and outcome variables using chi-square test. Quantitative analysis was conducted in STATA version 13. Responses to open-ended questions were audio recorded and transcribed verbatim. Transcripts were managed and analyzed using Dedoose software. Guided by conventional content analysis framework, the study team reviewed open-ended responses and developed a coding scheme [17]. Responses were then coded by the first author at two separate time points. Results of coding differed in less than 5% of the data. In cases where coding differed, the study team reviewed the data and assigned a code by consensus.

Results

Here we present descriptive and bivariate analyses, as bivariate analysis did not detect any significant associations between our exposures (demographics, sexual behavior) and outcomes of interest (PrEP awareness; PrEP intent); further modeling was not completed.

A total of 109 participants completed the study from February through September of 2018. The majority of participants (55%) were between the ages of 25 to 35 (inclusive), with a median age of 28.8 years (Table 1). All participants (100%) reported living in high HIV prevalence neighborhoods on the south or west side of Chicago. Participants contained economically vulnerable persons, with 37% reporting having trouble paying for basic needs such as food, housing, or medical care. Participants were potentially at increased risk for HIV due to condomless vaginal sex (67%), recent abortion (27.5%), and recent STI test (68%). Despite these characteristics, participants did not believe they were at risk for HIV with the majority (68%) reporting they had 0% chance of contracting HIV.

Only 35% of participants reported hearing of PrEP prior to enrolling in the study. When asked if they would take PrEP knowing it is an effective HIV prevention strategy, 74% reported that they would probably or definitely take PrEP, with 31% reporting that it is somewhat to very likely they would start PrEP in the next 3 months. The most frequently endorsed barriers to taking PrEP include concerns about side effects (50%), feeling the drug is too new (45%), and concerns about costs (31%). The majority of participants (83%) reported that the reason they have not taken PrEP before now is that they did not know the medication was available, followed by 10% of participants indicating that they did not know how to access the medication.

In response to an open-ended question, participants discussed their reason behind their decision to take or not take PrEP. Fifty-five participants indicated they would take PrEP, with 21 participants describing their decision based on drug efficacy:

> "It's just a preventive method that works. I would say it goes like hand in hand with wanting to prevent pregnancy, birth control and stuff. If you want to ensure that you are safe in that way it should come naturally to just take it."

A total of 19 respondents talked about the general benefits of PrEP but did not further elaborate. Some of these respondents simply replied that it seemed like a good option for HIV prevention. Finally, a total of nine respondents indicated PrEP would make them healthier, and six thought PrEP was an easy option.

A total of 31 participants indicated that they would not take PrEP. The majority of these participants (20) discussed that their reason for not taking PrEP was related to their partnership status, primarily stating they had sex with only one partner:

> "Because I practice safe sex and me and my fiancé already got tested."

Six participants were undecided and felt they needed more information in order to make a decision about taking PrEP.

Discussion

Although all women in this study reported being sexually active, lived in high HIV prevalence communities, and were presenting for care in a family planning clinic, the majority reported they had no chance of acquiring HIV (0% chance). This lack of self-perceived risk is of critical importance as it represents an opportunity for education, counseling, and intervention within family planning clinics. Specifically, women in partnerships may benefit from messaging around HIV prevention options as the majority of participants who reported they would not take PrEP indicated their relationship status was the primary reason. A lack of perceived HIV susceptibility among African American women might also be related to deep-seated stigma, fear, discrimination, and homophobic attitudes [18]. These factors not only heighten risk for HIV but also prevent African Americans, in particular, from accessing life-saving preventive treatment, including PrEP. Future research studies should explore the complex influences of perceived HIV susceptibility among African American women to inform PrEP strategies and messaging.

Once participants learned more about PrEP, over 70% reported they would probably or definitely like to take it – demonstrating that barriers to uptake might stem from knowledge

Table 1 Awareness of PrEP and intent to take PrEP by demographic and behavioral factors $N = 109$

	N (%)	Aware of PrEP			Intent to take PrEP		
		Yes 38 (35%)	No 70 (65%)	Chi-square *p* value	Yes 79 (74%)	No 28 (26%)	Chi-square p value
Age							0.23
18–24	25 (23)	6 (24)	19 (76)	0.34	16 (67)	8 (33)	
25–35	59 (55)	24 (41)	35 (59)		41 (71)	17 (29)	
36+	23 (22)	8 (35)	15 (65)		20 (87)	3 (13)	
Live in a high prevalence area							0.56
Yes	72 (67)	26 (36)	46 (64)	0.77	51 (72)	20 (28)	
No	36 (33)	12 (33)	24 (67)		27 (77)	8 (23)	
Basic needs*							0.12
Yes	40 (37)	11 (27)	29 (73)	0.20	26 (65)	14 (35)	
No	68 (63)	27 (40)	41 (60)		52 (79)	14 (21)	
STI test, previous 3 m							0.22
Yes	73 (68)	29 (40)	44 (60)	0.18	56 (78)	16 (22)	
No	34 (32)	9 (26)	25 (74)		22 (67)	11 (33)	
Abortion history							0.16
Yes	30 (27.5)	9 (30)	21 (70)	0.48	25 (83)	5 (17)	
No		29 (37)	49 (63)		54 (70)	23 (30)	
Condomless vaginal sex, previous 3 months							00.85
Yes	73 (67)	30 (41)	43 (59)	0.06	52 (73)	19 (27)	
No	35 (33)	8 (23)	27 (77)		27 (75)	9 (25)	
HIV risk perception							0.51
0% change of getting HIV	71 (68)	24 (34)	46 (66)	0.91	50 (70)	21 (30)	
25% chance of getting HIV	23 (22)	9 (39)	14 (61)		19 (83)	4 (17)	
50% or more change of getting HIV	11 (10)	4 (36)	7 (63)		8 (73)	3 (27)	

*Had trouble paying for basic needs such as food, housing, and medical care in the past 12 months

**age, STI test, missing 2 cases total n = 107; HIV risk missing 4 cases total n = 105

Fisher's exact test *p* value reported when cell sizes under 5

deficits rather than women's attitudes toward HIV prevention. These findings are consistent with prior studies among African American women in other health-care settings who perceived PrEP as an attractive HIV preventive option, once informed of PrEP's effectiveness and availability [14, 19]. Further, over 80% of respondents listed not knowing PrEP was available as the primary reason for not currently taking PrEP. Knowledge gaps and barriers to PrEP use among African American women and how they can be addressed in family planning clinics should be examined in future studies.

This study adds to the body of literature showing strong interest in PrEP among African American women as a facilitator; further public health implementation research is needed to understand uptake and persistence among women, as well as optimization of family planning clinics in this process[15]. With an estimated 40% of reproductive-aged women citing family planning clinics as their only source of recent health care [14, 20], the reproductive health-care setting is critical for understanding women's HIV risk perception and PrEP acceptability. Furthermore, research indicates women's comfort in discussing sexual risk behavior with family planning providers [14]. Moving beyond provider-level interactions, family planning clinics are a prime environment to increase knowledge of and access to PrEP for women in a variety of ways including providing educational materials and PrEP navigation (e.g., assistance with payment, prescription, adherence, etc.).

Study results need to be considered in light of a few limitations. First, our sample size was small which limited statistical power, variability within responses, and the inability to detect subgroup differences or build a multivariable model. Second, our sample was recruited from a single family planning clinic and thus should not be interpreted to be generalizable to all family planning patients, as regional variations may exist. Third, the open-ended responses were thematically coded by a single coder. To increase rigor, the data was coded at two separate time points, and discrepancies (less than 5%) were addressed by the study team. Finally, all data were self-reported and may be subject to social desirability. In an effort to mitigate socially desirable responses, data was collected via computer-assisted self-interviewing.

Conclusion

This study incorporates both open-ended responses and survey data to provide a more complete understanding of awareness and intent to use PrEP among African American women in the family planning clinic setting. Further research is needed to identify and address the sociocultural, structural, and behavioral barriers to PrEP uptake and persistence among African America women. Strategically engaging African American women in the development of ethically responsive tailored education strategies to optimize PrEP as a real-world HIV prevention strategy is critical to achieving health equity among women with heightened HIV vulnerability due to the complex intersections of race, gender, poverty, and other factors [11].

Funding Information Support for this study was provided by the Society of Family Planning Research Fund (grant SFP RF11-II5-2).

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict(s) of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee (Ann & Robert H. Lurie Children's Hospital Institutional Review Board, IRB2017–1410) and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

References

1. PEPFAR. The U.S. President's Emergency Plan for AIDS Relief Five-Year Strategy. Washington, DC. Published 2009. Accessed.
2. Auerbach JD, Hoppe TA. Beyond "getting drugs into bodies": social science perspectives on pre-exposure prophylaxis for HIV. J Int AIDS Soc. 2015;18:19983.
3. Prevention CfDCa. PrEP 101. In: National Center for HIV/AIDS VH, STD, and TB Prevention, ed. Atlanta, GA 2019
4. Koren DE, Nichols JS, Simoncini GM. HIV pre-exposure prophylaxis and women: survey of the knowledge, attitudes, and beliefs in an urban obstetrics/gynecology clinic. AIDS Patient Care STDs. 2018;32(12):490–4.
5. Gavin L, Moskosky S, Carter M, et al. Providing quality family planning services: recommendations of CDC and the US Office of population affairs. Morbidity Mortality Weekly Report: Recommendations and Reports. 2014;63(4):1–54.
6. Bush S, Magnuson D, Rawlings MK, Hawkins T, McCallister S, Mera GR. Racial characteristics of FTC/TDF for pre-exposure prophylaxis (PrEP) users in the US. ASM Microbe/ICAAC. 2016.
7. Scribner R, Theall KP, Simonsen N, Robinson W. HIV risk and the alcohol environment: advancing an ecological epidemiology for HIV/AIDS. Alcohol Research & Health. 2010;33(3):179.
8. Adimora AA, Schoenbach VJ. Social determinants of sexual networks, partnership formation, and sexually transmitted infections. In: The new public health and STD/HIV prevention. Berlin: Springer; 2013. p. 13–31.
9. Adimora AA, Schoenbach VJ. Contextual factors and the black-white disparity in heterosexual HIV transmission. Epidemiology. 2002;13(6):707–12.
10. Seidman D, Weber S. Integrating preexposure prophylaxis for human immunodeficiency virus prevention into women's health care in the United States. Obstet Gynecol. 2016;128(1):37–43.
11. DHHS. Title X family planning: HIV prevention in family planning. U.S. Department of Health and Human Services, Office of Population Affairs Web site. http://www.hhs.gov/opa/title-x-family-planning/initia tives-and-resources/hiv-prevention-and-integration/. Published 2015b. Accessed.
12. Seidman D, Weber S, Carlson K, Witt J. Family planning providers' role in offering PrEP to women. Contraception. 2018;97(6):467–70.
13. Seidman D, Carlson K, Weber S, Witt J, Kelly PJ. United States family planning providers' knowledge of and attitudes towards preexposure prophylaxis for HIV prevention: a national survey. Contraception. 2016;93(5):463–9.
14. Auerbach JD, Kinsky S, Brown G, Charles V. Knowledge, attitudes, and likelihood of pre-exposure prophylaxis (PrEP) use among US women at risk of acquiring HIV. AIDS Patient Care STDs. 2015;29(2):102–10.
15. Garfinkel DB, Alexander KA, McDonald-Mosley R, Willie TC, Decker MR. Predictors of HIV-related risk perception and PrEP acceptability among young adult female family planning patients. AIDS Care. 2017;29(6):751–8.
16. PN GL, Warren-Jeanpiere L, Experton LS, Young MA, Stigma KS. Partners, providers and costs: potential barriers to PrEP uptake among US women. J AIDS Clin Res. 2017;8(9).
17. Hsieh H-F, Shannon SE. Three approaches to qualitative content analysis. Qual Health Res. 2005;15(9):1277–88.
18. Division of HIV/AIDS Prevention NCfHA, Centers for Disease Control and Prevention. HIV and African Americans. 2019.
19. Fletcher FE, Fisher C, Buchberg MK, Floyd B, Hotton A, Ehioba A, et al. "Where did this [PrEP] come from?" African American mother/daughter perceptions related to adolescent Preexposure prophylaxis (PrEP) utilization and clinical trial participation. Journal of Empirical Research on Human Research Ethics. 2018;13(2):173–84.
20. Frost JJ, Gold RB, Bucek A. Specialized family planning clinics in the United States: why women choose them and their role in meeting women's health care needs. Womens Health Issues. 2012;22(6): e519–25.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.