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The Role of Stigma in HIV Prevention: A Focused Analysis of PrEP Hesitancy in Guyana

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Abstract

Human immunodeficiency virus (HIV) remains a major global health challenge, responsible for more than 42.3 million deaths as of July 2024. Despite the proven efficacy of pre-exposure prophylaxis (PrEP), uptake in Guyana remains limited, particularly among high-risk populations. This mixed-methods study investigated barriers to PrEP uptake in Guyana, focusing on stigma. A total of 280 participants completed structured questionnaires and 10 took part in in-depth interviews. Quantitative data were analyzed descriptively to determine prevalence of awareness and barriers, while thematic analysis using NVivo was employed for qualitative data. Findings revealed that 60% of participants had considered PrEP; however, stigma (50%), lack of awareness (36%), affordability (32%), side-effect concerns (29%), and confidentiality fears (21%) emerged as key barriers. Stigma was consistently described in interviews as fear of being labeled promiscuous or HIV-positive, leading to reluctance to seek PrEP services. Younger participants and LGBTQ+ individuals reported higher stigma experiences. Integration of both strands demonstrated how stigma interacts with structural issues such as cost and clinic availability, creating cumulative deterrents. Recommendations include provider training, culturally sensitive anti-stigma campaigns, community outreach, and decentralized service delivery. These findings underscore the urgent need for Guyana to address stigma as part of national HIV prevention strategies and to achieve UNAIDS 95-95-95 targets. Limitations include reliance on convenience sampling and descriptive statistics, which may restrict representativeness and generalizability.

Keywords: *Guyana, HIV Prevention, PrEP, Public Health, Stigma, Uptake Barriers*

Introduction

Human immunodeficiency virus (HIV) remains one of the most significant global public health challenges, impacting millions of lives [1]. As of July 2024, an estimated 42.3 million people worldwide had died due to HIV-related illnesses, with over 630,000 additional deaths recorded in 2023 alone [2]. In Guyana, the epidemic continues to exact a substantial toll. In 2023, the national HIV prevalence rate among individuals aged 15 to 49 was approximately 1.6% [3]. An estimated 10,000 [7,500–15,000] adults and children were living with HIV, with more than 1,000 new infections reported that year [3].

In July 2012, the United States Food and Drug Administration approved PrEP. The two-drug oral combination is central to this approach: Emtricitabine/Tenofovir disoproxil fumarate (FTC/TDF), branded as Truvada®, and Emtricitabine/Tenofovir Alafenamide (FTC/TAF), branded as Descovy® [4]. In 2021, the World Health Organization (WHO) recommended the use of the Dapivirine ring as an additional prevention option for women at substantial risk of HIV. Additionally, in 2022, WHO endorsed the long-acting injectable

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cabotegravir (CAB-LA) as another choice for people facing substantial HIV risk [4]. Ongoing research is also exploring other products, such as multipurpose prevention options that combine antiretroviral drugs with contraception, to expand the range of PrEP choices.

The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) have unequivocally endorsed PrEP as a powerful tool for preventing HIV transmission among high-risk individuals [5]. When taken consistently by HIV-negative individuals, the fixed-dose combinations of FTC/TDF or FTC/TAF can reduce the risk of acquiring the virus by up to 90% [6, 7].

To combat the spread of HIV, Guyana has promoted the use of PrEP—a biomedical prevention strategy that involves the daily use of antiretroviral medication by HIV-negative individuals at substantial risk of infection [8]. According to the World Health Organization and supporting literature, PrEP is up to 99% effective in preventing sexual transmission of HIV when taken consistently. Despite its proven efficacy, however, PrEP uptake in Guyana, particularly in Regions 3, 4, and 10, remains low [8].

In 2023, only 692 individuals accessed PrEP nationwide, a stark contrast to the estimated population at risk. This gap is not merely a matter of availability, but is deeply rooted in socio-cultural and structural barriers, foremost among them, stigma [9]. Stigma surrounding HIV, sexuality, and PrEP use impedes access by fueling fear, misinformation, and social judgment [9]. It affects not only key populations, such as men who have sex with men (MSM), transgender individuals, and sex workers, but also discourages the general population from seeking preventive care [9, 10].

This study explores the influence of stigma on PrEP hesitancy in Guyana. Drawing on a large-scale mixed-methods investigation, it examines the psychosocial and structural factors that inhibit PrEP uptake, with the aim of informing targeted, evidence-based interventions for improving HIV prevention outcomes.

Problem Statement

Despite the availability of PrEP in Guyana since 2015 and its high clinical efficacy, uptake remains disproportionately low, with only 692 individuals reported to be on PrEP in 2023. This gap between availability and use highlights a critical public health challenge, where stigma—rooted in fear of discrimination, association with HIV, and cultural misconceptions—remains an underexplored barrier to effective HIV prevention.

The objectives of the Study are to assess the extent of PrEP hesitancy among high-risk and general populations in Regions 3, 4, and 10 of Guyana. To identify the stigma-related and structural barriers influencing PrEP uptake. To analyze the meanings and perceptions of stigma from participants' lived experiences and to recommend evidence-based strategies to reduce stigma and improve PrEP accessibility.

Novelty of the Study

While previous research in Guyana has focused broadly on HIV prevention and treatment, few studies have specifically examined stigma as the central factor influencing PrEP hesitancy in both key and general populations. By combining quantitative and qualitative methods, this study offers novel, context-specific insights into how stigma operates at individual, community, and institutional levels. The findings provide practical recommendations for targeted policy, healthcare, and community-based interventions, thereby advancing both scientific understanding and public health practice in Guyana.

Materials and Methods

Study Site

The study was conducted in Guyana, with participants recruited from Regions 3, 4, and 10. These regions were selected due to their relatively high HIV prevalence and the availability of PrEP services across 24 healthcare facilities [11]. The sites represented a mix of regional hospitals and community health centres offering "Family Health Services," which provide HIV testing, care, and treatment, as well as management of other sexually transmitted infections (STIs). These facilities were strategically chosen because they serve both high-risk and general populations, ensuring diversity in participant recruitment and capturing the contextual realities of PrEP delivery within Guyana's public health system.

Study Design

A mixed-methods approach was employed, using an explanatory sequential design to capture both numerical and contextual data [12]. The study was conducted in two phases. The first phase involved quantitative data collection through structured questionnaires, followed by analysis. The second phase entailed qualitative interviews designed to provide in-depth insights into barriers and facilitators of PrEP uptake, informed by the quantitative findings. The mixed-methods approach enabled triangulation of data to ensure both breadth and depth of understanding.

Sampling and Recruitment

An explanatory sequential mixed-methods design was used. For the quantitative phase, convenience sampling was employed to recruit participants from the selected facilities, as this method allowed efficient access to individuals already engaged with healthcare services. Eligibility criteria included being 18 years or older, HIV-negative, and belonging either to the general population or to a high-risk group.

Operational Definition of High Risk. In this study, "high risk" referred to HIV-negative individuals who met one or more of the following criteria: men who have sex with men (MSM), transgender women, sex workers, persons in serodifferent partnerships, individuals with a history of bacterial sexually transmitted infections (STIs) in the past 12 months, those with multiple sexual partners in the past six months, individuals reporting inconsistent condom use, or persons engaging in transactional sex.

Individuals were excluded if they lived outside Regions 3, 4, or 10, were unable to provide informed consent, were under 18 years old, or had cognitive impairment. A total of 280 participants were successfully enrolled in the quantitative phase.

For the qualitative phase, purposeful sampling was applied to select a subset of participants from the survey cohort who could provide deeper insight into barriers and facilitators of PrEP uptake. Fifteen participants were invited to participate in interviews; however, data saturation was achieved at the 10th interview.

Data Collection Tools

In the quantitative phase, data were collected using a structured questionnaire that captured demographic characteristics, awareness of PrEP, prior use, and perceived barriers to uptake. The questionnaire was administered in English by trained research assistants and responses were entered into Microsoft Excel for analysis.

In the qualitative phase, semi-structured interview guides were used to explore participants' perceptions of stigma, personal and social experiences with PrEP, and recommendations for improving service delivery. Interviews were conducted in private settings within the health facilities or, where preferred, virtually through secure video conferencing platforms. Each interview lasted approximately 30–45 minutes. All interviews were transcribed verbatim and shared with

participants for verification (member checking).

Data Analysis

Quantitative data were analyzed using descriptive statistics, including frequencies and percentages, to summarize demographic characteristics, PrEP awareness, and barriers to uptake. Results were presented in Table 1 and Figure 1 to improve clarity. No inferential statistical tests were conducted, which limits the ability to determine associations between variables; this is acknowledged in the Limitations.

Qualitative data were analyzed using a six-step thematic analysis approach, guided by Braun and Clarke's framework [12]. Transcripts were first read repeatedly for familiarization, and initial codes were generated systematically. Codes were then grouped into broader themes, which were reviewed, refined, and defined in relation to the research questions. NVivo software was used to support data management and coding.

Trustworthiness and Reflexivity. To enhance credibility, transcripts were returned to participants for verification. An audit trail, including coding logs and analytic memos, was maintained to support dependability. The researcher used reflexive journaling to document assumptions and decision-making processes. Peer debriefing with a senior qualitative researcher was also conducted to reduce single-researcher bias and strengthen confirmability.

Data Saturation. For the qualitative phase, saturation was defined as the point at which two consecutive interviews yielded no new codes or themes. This threshold was reached after the 10th interview, indicating that additional interviews were unlikely to generate novel insights.

Results

Demographic Characteristics

In the quantitative phase, the demographic data collected included health facility/ treatment site, age of the participant, gender, sex orientation, region where PrEP services were provided, marital status, level of education, and employment status. However, for confidentiality reasons, data on health facilities or sites where PrEP services were accessed will not be included. The majority of the individuals involved in the study were aged 18 to 30 years (n = 178, 64%). Followed by individuals aged between 31 to 60 years old (n = 57, 20%), 61 to 80 years old (n = 44, 16%), and only one participant in the sample aged between 81 to 100 years (n = 1, 0.4%).

The majority of the participants were male (n = 143, 51%), followed by female (n = 97, 35%), non-binary (n = 30, 11%), five individuals preferred not to disclose (n=5, 2%) and five individuals identified themselves as others (n=5, 2%).

In terms of sexual orientation, the majority of the participants identified themselves as heterosexual (n = 121, 43%), followed by homosexual or gay (n = 49, 18%), bisexual (n = 40, 14%), lesbian (n = 30, 11%), pansexual (n = 19, 7%), queer (n = 9, 3%), asexual (n = 6, 2%), and 6 individuals identified themselves as others (2%).

In marital status, most of the participants were single (n = 138, 49%), common-law (n = 83, 30%), married (n = 50, 18%), separated (n = 5, 1.8%), divorced (n = 3, 1%) and widowed (n = 1, 0.4%). The majority of the participants attained secondary education (n = 143, 51%), followed by tertiary (n = 87, 31%) and primary (n = 50, 18%).

Additionally, 165 participants (59%) were employed, while 115 (41%) were unemployed. In the qualitative phase, the participants who were selected for the study were five males, three females, and two transgender women. Sexual orientation varied including

heterosexual, gay, bisexual, and queer. The educational background ranged from primary to tertiary. The employment status included formal employment, self-employment, part-time work, and student status. The age ranged from 22 to 42 years. The participants' diversity provided a broad perspective of the study.

Table 1. Demographic Characteristics of Participants

Demographic Characteristic	**Frequency (n)**	**Percentage (%)**
Male	143	51
Female	97	35
Non-binary/Third gender	30	11
Prefer not to say	5	2
Other	5	2
Heterosexual	121	43
Homosexual or Gay	49	18
Lesbian	30	11
Bisexual	40	14
Pansexual	19	7
Asexual	6	2
Queer	9	3
Other	6	2
Married	50	18
Divorced	3	1
Separated	5	1.8
Single	138	49
Common-law	83	30
Widowed	1	0.4
18–30	178	64
31–60	57	20
61–80	44	16
81–100	1	0.36
Primary	50	18
Secondary	143	51
Tertiary	87	31
Employed	165	59
Unemployed	115	41

Awareness and Consideration of PrEP

Regarding the awareness about the existence and effectiveness of HIV PrEP, the majority of the participants (n = 169, 60%) reported having considered taking PrEP medication. Factors such as desire for asset protection against HIV (n = 41, 24%), recommendation from healthcare professionals (n =38, 22%), suggestions from friends, family members or peers (n = 24, 14%), life experiences or knowledge of HIV (n =18, 10%) and educational materials (n = 15, 8%) were considered to influence participants decisions on the PrEP uptake.

Barriers to PrEP Uptake

Among the 280 participants surveyed, stigma was the most frequently reported barrier overall (50%); however, lack of awareness (36%) and affordability (32%) were also substantial and may be equally influential for specific subgroups. Other commonly reported barriers included limited clinic availability (n = 70, 25%) and confidentiality concerns (n = 60, 21%). Participants feared being labeled as promiscuous or HIV-positive, especially in tight-knit communities. Healthcare providers were often perceived as judgmental, discouraging open dialogue. Additionally, misconceptions about PrEP being solely for HIV-positive individuals exacerbated fears.

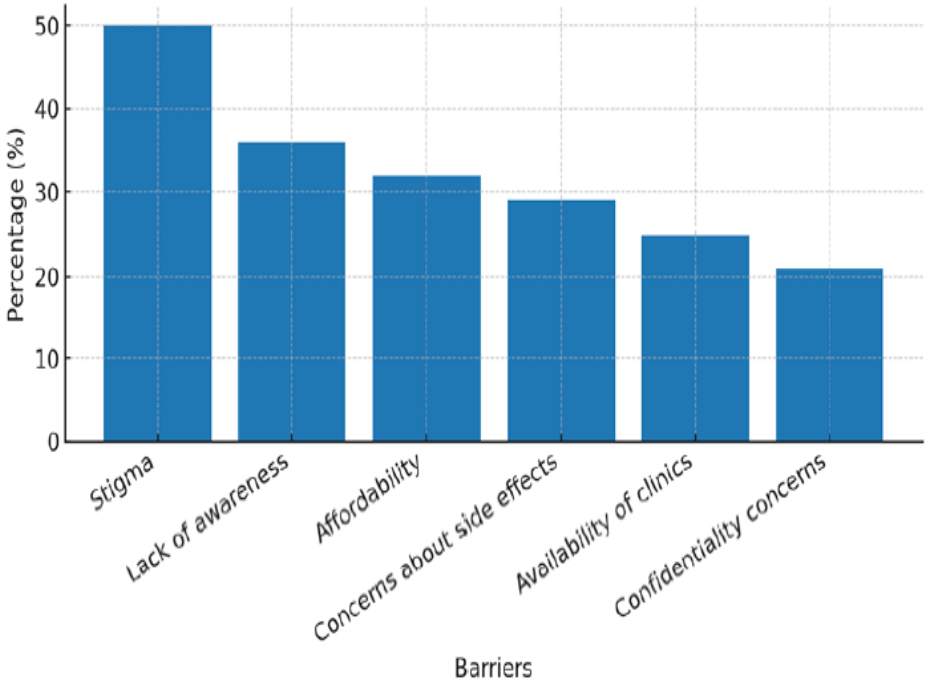

Figure 1. Reported Barriers to PrEP Uptake

Qualitative Insights

Qualitative accounts illustrated the quantitative trends: for example, while 50% cited stigma, interviewees explained how stigma combined with provider discrimination and confidentiality fears to magnify deterrents. One participant shared, “When you ask for PrEP, people assume you already have HIV. It's easier to avoid it than deal with shame.”

Discussion

This study examined the influence of stigma on PrEP hesitancy in Guyana, guided by four objectives: (1) to assess the extent of PrEP hesitancy; (2) to identify stigma-related and structural barriers; (3) to analyze perceptions and lived experiences of stigma; and (4) to recommend evidence-based strategies for improving uptake.

Findings confirm that while awareness of PrEP exists among certain populations, actual uptake remains limited. Fear of judgment, mislabeling, and healthcare bias significantly undermine willingness to access and adhere to PrEP. This confirms a gap between awareness and use, consistent with global reports [9].

Stigma was found to manifest at multiple levels. At the individual level, internalized stigma fosters shame, fear of being labeled promiscuous or HIV-positive, and reluctance to associate with HIV-related services. Interpersonally, the fear of disclosure to partners, families, or social networks serves as a psychological barrier, particularly among LGBTQ+ individuals and sex workers. Structurally, health systems may perpetuate stigma through judgmental provider attitudes, inadequate privacy, and weak integration of PrEP into routine care pathways. These findings mirror trends observed in other Caribbean and African contexts [13].

Qualitative insights highlighted the cumulative effect of stigma, interacting with other barriers such as cost, clinic availability, and confidentiality concerns. Even when individuals were aware of PrEP and motivated to protect themselves, layered stigma across social, institutional, and policy spheres prevented them from translating awareness into action. Regional comparisons, such as studies in Jamaica and South Africa, revealed similar dynamics where stigma intersects with poverty, lack of education, and rural isolation, further marginalizing vulnerable groups [18, 19].

The findings point to the need for multi-level interventions. Community-level campaigns involving influencers, faith leaders, and peer educators may help normalize PrEP and reframe it as an empowerment tool. At the clinical level, provider sensitization and structured training are essential for dismantling discriminatory attitudes and fostering affirming environments. Structural solutions such as mobile clinics, telehealth services, and integration of PrEP into family planning and STI programs can create discreet and normalized access points [14, 15]. Furthermore, mental health support should be incorporated into PrEP services to mitigate internalized stigma and support adherence.

Stigma remains not only a psychosocial issue but also a public health challenge that undermines Guyana's ability to achieve the UNAIDS 95-95-95 targets by 2030. Addressing stigma requires cross-sectoral collaboration, inclusive messaging, and policy reform—including decriminalization advocacy and investment in community-led monitoring [16, 17]. Healthcare provider attitudes play a pivotal role; without proper training and accountability, providers risk reinforcing stigma instead of alleviating it.

Future research should apply inferential statistics to assess associations between stigma and demographic subgroups and conduct longitudinal studies to evaluate the effectiveness of stigma-reduction interventions over time.

Limitations

This study has several limitations. First, the use of convenience sampling in the quantitative phase restricts representativeness and generalizability of the findings. Second, although "high risk" was operationalized to include groups such as MSM, transgender women, and sex workers, other at-risk populations may have been underrepresented. Third, the analysis relied primarily on descriptive statistics; the absence of inferential or multivariable analyses limits the ability to assess associations between stigma and participant demographics. Fourth, qualitative coding was conducted by a single researcher, which raises the possibility of interpretive bias; however, credibility was enhanced through member checking, reflexive journaling, and peer debriefing. Finally, saturation was judged pragmatically after the tenth interview, but additional interviews from other settings might have yielded further nuance.

Recommendations

PrEP should be integrated into routine services such as maternal and child health clinics, STI units, and community health centres to normalize its use and reduce stigma by presenting it as part of standard preventive care.

National training programs are required to improve healthcare providers' knowledge, attitudes, and practices toward PrEP. Emphasis should be placed on ensuring confidentiality, empathy, and non-judgmental service delivery.

Community-led interventions, including peer navigation, mobile outreach, and culturally sensitive education campaigns, should be prioritized to build trust, dismantle harmful myths, and improve uptake among marginalized groups.

Finally, policy reform and collaboration with international partners such as UNAIDS, PEPFAR, and the Global Fund are necessary to strengthen national capacity, expand stigma-free services, and ensure equitable access across both rural and urban settings.

Further Research

Future studies should evaluate the effectiveness of stigma-reduction interventions in improving PrEP uptake, with a particular focus on high-risk subgroups such as transgender women, sex workers, and MSM. Longitudinal research is also needed to assess whether stigma-mitigation strategies result in sustained improvements in PrEP adherence and persistence. Comparative studies across Caribbean and South American countries could provide additional insights into cultural factors shaping stigma and prevention strategies.

Conclusion

Stigma remains the most persistent barrier to the uptake of PrEP in Guyana, profoundly undermining the country's HIV prevention efforts. The findings of this study underscore how stigma—manifesting at the individual, interpersonal, and structural levels—discourages individuals from accessing PrEP, even when they are aware of its benefits. This stigma is often reinforced by misconceptions, cultural conservatism, healthcare discrimination, and fear of being socially labeled as promiscuous or HIV-positive.

To counter these entrenched barriers, a comprehensive, multi-sectoral response is essential. Guyana must implement interventions that not only address knowledge gaps but also confront the social norms and institutional practices that perpetuate stigma and misinformation. These efforts should include targeted anti-stigma campaigns, culturally relevant community outreach, and sustained healthcare provider training focused on empathy, confidentiality, and non-judgmental service delivery.

The expansion of decentralized PrEP services, particularly in underserved and rural areas, should be prioritized. Such services must ensure confidentiality and convenience, enabling individuals to access care without fear of exposure or judgment. Engaging civil society organizations and leaders of key populations as partners in awareness-building can further enhance trust and improve service reach.

Beyond immediate programmatic efforts, this research highlights the importance of establishing monitoring and evaluation frameworks to track PrEP uptake, stigma reduction, and client satisfaction. Future research should adopt longitudinal designs to assess whether anti-stigma interventions produce lasting effects and whether health policy reforms translate into improved uptake and adherence.

Ultimately, addressing stigma is not only about improving access to a preventive tool; it is about upholding the dignity and rights of vulnerable populations and ensuring equitable access to health. By confronting stigma directly through informed policy, community engagement, and inclusive healthcare reform, Guyana can make significant progress toward

ending the HIV epidemic and meeting its national and global prevention targets.

Justification and Extension

This study justifies the urgent need for stigma-reduction strategies as a prerequisite for scaling up PrEP and achieving Guyana's HIV prevention goals. The findings are directly applicable to policymakers, healthcare leaders, and program managers responsible for designing equitable HIV services. Furthermore, the insights generated carry broader regional significance, providing a framework that can be adapted across Caribbean and Latin American settings facing similar socio-cultural and structural barriers.

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Conflict of Interest

The author declares no conflict of interest.

Ethical Approval

The Institutional Review Board of the Ministry of Health, Guyana, and the National AIDS Program Secretariat of the Ministry of Health approved this study. Authorization was also received from the participating healthcare facilities before recruitment. Informed consent was obtained from all participants. To maintain confidentiality, no identifying information was collected. Data was securely stored in password-protected files, with plans to permanently delete it after 7 years.

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