Acta Scientific MEDICAL SCIENCES (ISSN: 2582-0931)

Volume 9 Issue 12 December 2025

Research Article

Contraceptive Practices of Women Living with HIV in Guyana: A Mixed Methods Study

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DOI: 10.31080/ASMS.2025.09.2178

Received: September 24, 2025

Published: November 06, 2025

Abstract

An explanatory sequential mixed methods design was employed to assess the determinants of contraceptive use among women living with HIV in Guyana. A convenience sample of 196 women living with HIV, aged 16–49 years, were surveyed. In the qualitative phase, two focus groups were conducted with purposively selected participants from the survey—one comprising contraceptive users and the other non-users. Quantitative data were analyzed in SPSS version 21 using descriptive statistics. Chi-square tests identified factors associated with contraceptive use, with significance set at $p < 0.05$. Qualitative data were analyzed thematically. Overall, 47% of women reported using a contraceptive method. The male condom (44%) and hormonal implant (24%) were most frequently used. Among non-users, fear of side effects and lack of information were the main reasons cited. Significant factors associated with contraceptive use included having three or more children and receiving family planning information from a health care provider at the HIV clinic. The qualitative findings highlighted that fear of side effects was a shared concern among both users and non-users. Motivations to use contraceptives included lack of financial support, fear of transmitting HIV to a child, and receiving counseling on family planning. Conversely, perceived judgmental attitudes of health care workers were reported as barriers among non-users. Only 47% of women were using contraception, reflecting low utilization. Strengthening the integration of family planning into HIV care services is essential, as contraceptive use represents a key strategy for reducing vertical HIV transmission.

Keywords: Contraceptives; Family Planning; Women Living with HIV

Abbreviations

AIDS: Acquired Immunodeficiency Syndrome; ARVs: Antiretroviral Drugs; GPHC: Georgetown Public Hospital Corporation; HIV: Human Immunodeficiency Virus; PMTCT: Prevention of Mother-To-Child Transmission; MOH-IRB: Ethical Review Committee of the Ministry of Health; MTCT: Mother to Child Transmission; WHO: World Health Organization; WLHIV: Women Living with HIV.

Introduction

The prevalence of Human Immunodeficiency Virus (HIV) among adults in the Caribbean is estimated between 1.9% and 3.1%, second only to sub-Saharan Africa. The region faces a generalized epidemic influenced by sociocultural, lifestyle, and economic factors [1]. The epidemiologic profile is evolving, with women and girls increasingly affected due to biological and sociological

vulnerabilities. Globally, an estimated 1.3 million women and girls with HIV become pregnant annually, and without antiretroviral therapy, the risk of mother-to-child transmission (MTCT) during pregnancy, labor, delivery, or breastfeeding is 15–45% [2].

Recent national data show HIV prevalence among pregnant women approaching or exceeding 2% in Trinidad and Tobago, the Dominican Republic, The Bahamas, Belize, Suriname, Haiti, and St. Lucia [1]. The threshold for a generalized epidemic is 2%. Encouragingly, several countries and territories—including Cuba, Anguilla, Antigua, Montserrat, Bermuda, Cayman Islands, Dominica, and St. Kitts and Nevis—have received dual WHO validation for eliminating MTCT of HIV and syphilis [3]. More recently, Belize, Jamaica, and St. Vincent and the Grenadines achieved this milestone [2]. Guyana, however, has not yet done so, likely due to gaps in antenatal testing coverage, limited integration of prevention of mother-to-child transmission (PMTCT) services across regions, and weaknesses in surveillance and data quality. Persistent disparities in access to timely diagnosis and treatment, particularly in remote areas, have also contributed to the delay in achieving dual validation.

Guyana, a Caribbean Community member on the South American mainland [4], continues to experience a low-level generalized HIV epidemic. Women and girls are disproportionately affected, and key populations—including men who have sex with men, transgender women, and commercial sex workers—remain highly vulnerable [5]. By the end of 2022, an estimated 9,800 people were living with HIV in Guyana, 53% of whom were female. Among pregnant women, HIV prevalence was 1.2%, below the 2% threshold used to define generalized epidemics in this group [5]. However, MTCT increased from 1.1% in 2022 to 1.6% in 2023; of 180 infants born to mothers living with HIV in 2023, three tested positive [6].

MTCT can be prevented through voluntary testing and counseling, consistent use of antiretroviral drugs (ARVs), and evidence-based infant care. Nonetheless, providing family planning services to prevent unintended pregnancies among women living with HIV is a more cost-effective strategy for reducing new infant infections [7,8]. Family planning also improves quality of life, reduces maternal and infant morbidity and mortality, and lowers risks associated with unsafe abortion [9]. Although unintended pregnancy is common among both HIV-positive and HIV-negative women, it carries greater risks for women living with HIV and their infants [10].

In Guyana, contraceptive prevalence among women of reproductive age is estimated at 40% [11], while the teenage pregnancy rate stands at 15.8%, raising concerns about limited condom use and heightened HIV risk among young women [5]. Despite this, there is little information on contraceptive use specifically among women living with HIV (WLHIV). Research elsewhere has shown that sociodemographic, medical, and reproductive factors—as well as health care access and provider attitudes—strongly influence reproductive decision-making among WLHIV [9,12,13].

The WHO's four-pronged strategy for preventing MTCT includes ensuring access to contraceptives for WLHIV who do not desire pregnancy [8]. Unintended pregnancies among this group can lead to unsafe abortions, maternal morbidity and mortality, and increased risk of infant HIV infection. Studies highlight variation in contraceptive use among WLHIV [14,15]. In the United States, unplanned pregnancies were common despite low use of effective contraceptives [14]. A global survey of HIV-positive women in 94 countries found that 60% had at least one unintended pregnancy, and fewer than half had ever accessed contraceptive services [8]. These findings underscore the need to integrate family planning into HIV care.

In Guyana, while the contraceptive prevalence rate for the general female population is documented (40%) [11], no data exist on WLHIV specifically. This knowledge gap hinders effective service delivery. Understanding the factors that shape contraceptive use among WLHIV is essential to improving family planning integration within HIV programs.

This study is guided by the Health Belief Model, which posits that health behaviors are shaped by modifying factors (sociodemographic and structural) and individual perceptions of benefits and barriers [16]. The objectives were to assess the prevalence of contraceptive use and its associated factors among WLHIV as well as to explore their perceptions regarding facilitators of and barriers to the use of contraceptives with a view to understanding how the existing services are meeting their family planning needs.

Materials and Methods

Study Design: An explanatory, sequential mixed methods approach based on the pragmatic paradigm was used to achieve the objectives of this study. Using this approach, an initial quantitative phase informed the subsequent qualitative phase of the study [17]. The quantitative aspect assessed the prevalence of, and the factors associated with contraceptive use among the participants. The qualitative aspect was used to explain the quantitative results by allowing the researchers to explore the participants' experiences, and their opinions regarding facilitators of and barriers to contraceptive use. This approach was used to provide a better understanding of the research problem.

- **Setting, study population and sampling techniques:** This study was conducted at The National Care and Treatment Centre and Campbellville Health Centre in Region 4, Guyana. These sites were selected since collectively, 26.5% of the total number of persons living with HIV from various administrative regions of Guyana receive care there**.** Registered women between 16 and 49 years old were included while those who had undergone a hysterectomy or were post-menopausal were excluded. At the time the study was conducted, 824 women between 16 and 49 years old were receiving care at the study facilities. This information was provided by the data entry clerks at both sites. Due to the sensitive nature of this study topic, the researchers conveniently sampled the participants as they attended clinic during September and October 2024. One hundred and ninety-six (196) women representing 24% of the study population gave consent to participate. They were also invited to participate in the focus group discussions. Participants were purposively sampled from the survey group for the two focus group discussions. Women from both clinics of varying ages, ethnicities and educational levels were selected. Two focus groups discussions which lasted approximately 90 minutes each were conducted with a group of WLHIV who use contraceptives (7 participants) and another group of WLHIV who do not use contraceptives (5 participants).

- **Instruments**: Using the literature [15] and the theoretical framework, the researchers developed the survey instrument which was pilot tested with ten women who attend clinic at one of the sites. The results of the pilot were excluded from the analysis. The researchers acquired socio-demographic, clinical and reproductive data as well as information pertaining to the provision of contraceptives. The qualitative data was acquired using two semi-structured interview guides which were developed guided by the quantitative results. The researchers conducted two focus group discussions with a group of women who use contraceptives and women who do not use contraceptives to explore their experiences.

- **Data collection:** For collecting quantitative data, the researchers shared a link to access Google forms with participants who were computer literate. The researchers assisted those participants who were not literate with completing the paper-based version of the survey. The qualitative data was collected during the two in-person focus group discussions. The discussions were audio recorded and subsequently transcribed.

- **Data analysis**: All quantitative data was entered into a Microsoft Excel spreadsheet and imported into IBM SPSS 21 for cleaning and analysis. Frequency analyses were conducted, Chi square test were used to determine the factors associated with contraceptive use among the participants, with contraceptive use as the dependent variable (No = 0, Yes = 1). Covariates included age, employment, level of education, number of children, patient's disclosure of their HIV status to their partner, partner's HIV status, and availability of contraceptives and contraceptive counselling at the care and treatment facility. Ninety- five percent (95%) confidence intervals were used to determine whether the covariates are significant predictors of contraceptive use among HIV-positive women at a p- value of 0.05 significance level. The interview transcripts were analysed manually. Inductive and deductive approaches to coding were used. Themes were developed based on descriptive labels assigned to recurring words and phrases. Dependability was ensured by two researchers analysing the data separately to ensure consistency of the codes and themes. Credibility was ensured by researchers transcribing the interviews verbatim. Researcher reflexivity was maintained by the principal investigator recording memos to capture insights into the study.

- **Ethical Consideration:** This study received ethical approval from the Ministry of Health Institutional Review Board and the Georgetown Public Hospital Research Committee in Guyana. Data were obtained from health facility records and through participant interviews as part of the research process. Written informed consent was obtained from all participants prior to data collection. The study posed minimal risk, as participation was voluntary and did not interfere with patient rights, welfare, or clinical care. To ensure confidentiality, all data were anonymized; identifying information was removed from transcripts and datasets, and records were stored securely in password-protected, encrypted files accessible only to the research team. In keeping with international and national ethical standards, research data will be retained for six years before being permanently destroyed.

Results

- **Sociodemographic characteristics of the study participants:** A total of one hundred and ninety-six (196) out of eight hundred and twenty-four (824) women living with HIV answered a survey conducted from September 1st to October 15th, 2024, representing a response rate of 24%. Women were aged between 16 and 49 (mean age 37.5) being the majority of them between 35 and 49 years (133; 68%) and only a few were younger than 25 years (5.6%). Most of them have secondary school level of education (138; 70.4%), and a vast majority was Christian (179; 91.3%). The majority resided in Region 4, (138; 70.4), as the studied clinics are located in Georgetown, however an important proportion resided in region 3 (36; 18.4%), and still have some patients from remote regions in Guyana (11.2%) (Table 1).

- **Prevalence of contraceptive use and types of method used**: Of the participants (101; 52%) indicated that they did not use contraceptives, (93; 47%) used contraceptives while (2; 1%) did not know what contraceptives were. Among the participants who used contraceptives, the most used method was male condoms, reported by 44% of participants. Hormonal implants were the second most frequently used method, chosen by 24%. Other popular methods included intrauterine devices (IUDs) (16%), tubal ligation (15%), and oral contraceptive pills (11%). Female condoms were used by 10%, while Depo-Provera chosen by 7.5% of participants.

The analysis of contraceptive use in relation to demographic factors revealed no statistically significant associations across all variables examined (p-values > 0.05) (Table 1).

Table 1: Prevalence of Contraceptive use in Relation to Demographic Factors.

Demographics Factors	Total (n = 196) No. (%)	Contraceptive Use[a]		Chi square p-value
		No (n = 101)	Yes (n = 93)	
		No. (%)	No. (%)	
Age				
16 - 24	11 (5.6)	6 (54.5)	5 (45.5)	0.606
25 - 34	52 (26.5)	30 (57.7)	22 (42.3)	
35 - 49	133 (67.9)	65 (49.6)	66 (50.4)	
Education				
Primary	24 (12.2)	9 (39.1)	14 (60.9)	0.231
Secondary	138 (70.4)	77 (56.2)	60 (43.8)	
Tertiary	21 (10.7)	9 (42.9)	12 (57.1)	
Technical Vocational	8 (4.1)	5 (62.5)	3 (37.5)	
Other	5 (2.6)	1 (20.0)	4 (80.0)	

Religion				
Christian	179 (91.3)	91 (51.1)	87 (48.9)	0.418
Muslim	5 (2.6)	2 (40.0)	3 (60.0)	
Hindu	6 (3.1)	3 (60.0)	2 (40.0)	
Other	6 (3.1)	5 (83.3)	1 (16.7)	
Ethnicity				
African	114 (58.2)	59 (52.2)	54 (47.8)	0.305
Mixed	61 (31.1)	35 (57.4)	26 (42.6)	
East Indian	16 (8.2)	6 (40.0)	9 (60.0)	
Amerindian	5 (2.6)	1 (20.0)	4 (80.0)	
Region				
3 Essequibo Islands- West Demerara	36 (18.4)	20 (57.1)	15 (42.9)	0.687
4 Demerara- Mahaica	138 (70.4)	71 (51.8)	66 (48.2)	
Other Regions	22 (11.2)	10 (45.5)	12 (54.5)	
Employment Status				
Not Employed	68 (34.7)	35 (53.0)	31 (47.0)	0.966
Employed/Self-employed	128 (65.3)	66 (51.6)	62 (48.4)	
Monthly income (n = 128)				
Less than 50 000	36 (28.1)	18 (54.5)	15 (45.5)	0.322
50 000 to < 100 000	67 (52.3)	34 (48.6)	36 (51.4)	
100 000 to < 200 000	18 (14.1)	12 (66.7)	6 (33.3)	
More than 200 000	7 (5.5)	2 (28.6)	5 (71.4)	

[a] Two women who indicated that they were unaware of what a contraceptive is were excluded from the analysis.

Similarly, there was no statistically significant association with contraceptive use and clinical factors such as participants' knowledge of their viral load or time since HIV diagnosis as well as disclosure of their HIV status to their partner and the partner's HIV status (all p-values > 0.05) (Table 2).

Table 2: Prevalence of Contraceptive use in Relation to Clinical Factors.

Clinical Factors	**Total (n = 196) No. (%)**	**Contraceptive Use[b]**		**Chi square p-value**
		No (n = 101) No. (%)	**Yes (n = 93) No. (%)**	
Attending Clinic (n = 195) [a]				
Campbellville Health Centre	133 (68.2)	63 (47.7)	69 (52.3)	0.129
National Care and Treatment Centre	62 (31.8)	37 (60.7)	24 (39.3)	
Last viral load result undetectable				
No	22 (11.2)	12 (54.5)	10 (45.5)	0.865
Yes	117 (59.7)	62 (53.0)	55 (47.0)	
Do not know	57 (29.1	27 (49.1)	28 (50.9)	

Time diagnosed with HIV [a]				
Less than 1 year	15 (7.8)	8 (53.3)	7 (46.7)	0.345
1 to 5 years	28 (14.5)	18 (64.3)	10 (35.7)	
More than 5 years	150 (77.7)	73 (49.3)	75 (50.7)	

[a] One woman did not report the clinic she attended, and three women did not provide information on the time since their HIV diagnosis.

[b] Two women who indicated that they were unaware of what a contraceptive is were excluded from the analysis.

Table 3 analyzes contraceptive use among women based on sexual and reproductive factors, including recent sexual activity, pregnancy status, pregnancy intentions, disclosure of HIV status, and partner's HIV status. Significant associations were found between contraceptive use and sexual activity ($p = 0.026$), pregnancy status ($p = 0.021$), and pregnancy intentions ($p < 0.0001$). Women who were sexually active, not pregnant, and not planning to get pregnant were more likely to use contraceptives.

Table 3: Prevalence of Contraceptive use in Relation to Sexual and Reproductive Factors.

Factors	Total (n = 196) No. (%)	Contraceptive Use[a]		Chi square p-value
		No (n = 101)	Yes (n = 93)	
		No. (%)	No. (%)	
Sexually active past 6 months				
No	54 (27.6)	35 (66.0)	18 (34.0)	0.026
Yes	142 (72.4)	66 (46.8)	75 (53.2)	
Currently Pregnant				
No	188 (97.9)	93 (50.0)	93 (50.0)	0.021
Yes	5 (2.6)	5 (100)	0 (0.0)	
Not Sure	3 (1.5)	3 (100)	0 (0.0)	
Planning to get pregnant [b]				
No	123 (62.8)	49 (40.5)	72 (59.5)	< 0.0001
Yes	35 (17.9)	28 (80.0)	7 (20.0)	
Not Sure	29 (14.8)	17 (58.6)	12 (41.4)	
Currently pregnant	5 (2.6)	5 (100)	0 (0.0)	
Disclosed HIV status with partner				
No	47 (24.0)	24 (52.2)	22 (47.8)	0.187
Yes	130 (66.3)	64 (49.2)	66 (50.8)	
Not sexually active/No partner	19 (9.7)	13 (72.2)	5 (27.8)	
Partner's HIV status				
HIV Negative	77 (39.3)	36 (46.8)	41 (53.2)	0.379
HIV Positive	54 (27.6)	26 (49.1)	27 (50.9)	
Don't Know	59 (30.1)	36 (61.0)	23 (39.0)	
Not sexually active/No partner	6 (3.1)	3 (60.0)	2 (40.0)	

[a] Two women who indicated that they were unaware of what a contraceptive is were excluded.

[b] Four women did not state her intentions to get pregnant.

Table 4 examines contraceptive use in relation to participants' perceptions of information sufficiency, family planning discussions, and contraceptive provision in clinics. The analysis revealed that perceptions of sufficient information, family planning discussions, and contraceptive provision in clinics significantly influenced contraceptive use among participants. Women who believed they had sufficient information were more likely to use contraceptives (66.0%) compared to those who felt inadequately informed (26.7%) ($p < 0.001$). Similarly, contraceptive use was higher among participants who discussed family planning in clinics (55.8%) than those who did not (38.4%) ($p = 0.025$). Additionally, receiving contraceptives in clinics was associated with increased usage (56.5%) compared to those who did not receive them (40.3%) ($p = 0.032$). These findings highlight the critical role of information and clinic-based support in promoting contraceptive uptake.

Table 4: Prevalence of Contraceptive use in Relation to Knowledge and Clinical Counseling.

Factors	Total (n = 196) No. (%)	Contraceptive Use[a]		Chi square p-value
		No (n = 101)	Yes (n = 93)	
		No. (%)	No. (%)	
Perception of Having Sufficient Information for Contraceptive Decision-Making				
No	75 (39.1)	55 (73.3)	20 (26.7)	< 0.001
Yes	101 (52.6)	34 (34.0)	66 (66.0)	
Not sure	16 (8.3)	9 (60.0)	6 (40.0)	
Family planning discussed in clinic [b]				
No	86 (44.8)	53 (61.6)	33 (38.4)	0.025
Yes	106 (55.2)	46 (44.2)	58 (55.8)	
Contraception given in clinic [b]				
No	63 (32.4)	37 (59.7)	25 (40.3)	0.032
Yes	109 (56.2)	47 (43.5)	61 (56.5)	
Don't Know	22 (11.3)	46 (44.2)	58 (55.8)	

[a] Two women who indicated that they were unaware of what a contraceptive is were excluded.

[b] Four women missed some questions and were excluded from the analysis.

Reasons for not using contraceptives

The most frequently reported reason was a fear of side effects, cited by 42.6% of non-users. Lack of information and not having a regular partner or being sexually inactive were both reported by 23.8% of participants. Desire to have a child accounted for 18.8% of responses, and a small proportion of participants (5.0%) stated they did not use contraceptives due to non-disclosure of their HIV status to their partner. The unavailability of preferred contraceptive methods was the least common reason, reported by 4.0% of non-users.

The qualitative analysis identified important differences between women living with HIV who use contraceptives and those who do not.

Among contraceptive users, participants reported both positive and negative experiences. Many described contraceptives as convenient and easy to use, while others raised concerns such as prolonged bleeding and weight gain. Motivations for contraceptive use included preventing HIV transmission to a child, avoiding unwanted pregnancies and abortions, lack of partner support, advice from health care providers, and personal circumstances such as partners unaware of their HIV status.

In contrast, non-users highlighted negative experiences with side effects from different methods, such as prolonged bleeding from injections, weight loss with pills, and decreased sexual desire with implants. Barriers to contraceptive use included inadequate

counseling, lack of information on side effects, and perceived judgmental attitudes from health care providers. Some participants also questioned why contraceptive use was emphasized for women while men were not equally targeted.

Overall, the findings reveal that while motivations to use contraceptives are strongly tied to health concerns, fertility control, and provider guidance, barriers arise from adverse side effects, insufficient counseling, and gendered expectations in reproductive health discussions.

Discussion

This study provides novel insights into contraceptive use among WLHIV in Guyana, a population for whom contraceptive uptake has not been well documented. The prevalence of contraceptive use in this study (47%) was higher than the national average of 40% among women in the general population[3], suggesting that WLHIV may have a greater motivation to prevent unintended pregnancies, consistent with the Health Belief Model which emphasizes perceived benefits in shaping health behaviors [16]. Nonetheless, contraceptive coverage remains suboptimal, with more than half of the participants reporting non-use despite their increased risk of mother-to-child transmission (MTCT).

Unlike women in the general population, women living with HIV must consider their desires to bear children as well as the risk of reinfection, transmission of the virus to their babies and potential orphaning of their children [18]. Studies in various settings have shown wide variation in contraceptive prevalence among this group. In India, the prevalence of modern contraceptive use among WLHIV was 85% [19], while in South Africa and Nigeria it was 78% and 73.1%, respectively [20,21]. Researchers have suggested that the higher prevalence in these contexts may be due to stronger integration of family planning into HIV care services, more consistent contraceptive counseling, and broader availability of modern methods [20,21]. In contrast, Guyana's comparatively lower prevalence may reflect gaps in the integration of reproductive health and HIV services, limited contraceptive options in some regions, and sociocultural or religious norms that discourage contraceptive use. Geographic disparities, with remote hinterland areas facing greater barriers to access and fewer trained health professionals, may also contribute to the lower uptake observed.

Conversely, studies conducted in Ghana [22] and the Amhara region of Ethiopia [23] reported contraceptive use rates below 50% among WLHIV. Factors contributing to the lower prevalence in these settings included concerns about side effects, limited access to family planning services, and partner opposition to contraceptive use [19,24].

The quantitative findings indicated that socio-demographic and clinical characteristics were not significantly associated with contraceptive use, echoing results from other settings where individual perceptions and access factors outweighed structural determinants [17,25]. Instead, sexual and reproductive variables—including pregnancy status, intentions, and recent sexual activity—were strongly associated with use, underscoring the centrality of fertility goals in contraceptive decision-making. Importantly, the availability of information, counseling, and contraceptive provision within clinics significantly predicted use, reinforcing the critical role of provider engagement and integrated service delivery.

Several studies conducted among women living with HIV have demonstrated that contraceptive use is associated with sociodemographic factors such as age, level of education, employment, and marital status [9,15]. In a hospital- based cross-sectional study conducted in Ethiopia among 308 women living with HIV, younger women between the ages of 15 and 34 were three times more likely to use contraceptives than those between the ages of 35 and 49 years [13]. In a cross-sectional study conducted by Worke and colleagues [24], women with HIV who were married, had acquired a higher level of education and those with higher monthly income were more likely to use contraceptives [24]. Additionally, reproductive factors such as the number of living children, not having any children, and having a child who contracted HIV in-utero were also associated with contraceptive use [9,10,15,19]. Similar to our findings, Neives and colleagues observed that women with HIV who had three or more children were more likely to use contraception [26]. Conversely, women who did not have children and desired to experience motherhood were less likely to use contraception [27].

In contrast to our findings, disclosure of HIV status to a sexual partner and the partner's HIV status have been found by other authors to be associated with contraceptive use among WLHIV

[13,15,28]. Women who had disclosed their HIV status to their sexual partner were twice as likely to use contraceptives as those who had not [13]. Furthermore, women whose sexual partner was HIV-negative were more likely to use barrier methods of contraception to protect their partners from contracting HIV [20].

The male condom was more selected than long-acting reversible methods such as the IUD, hormonal implant or Depo-Provera. This is in line with the results of a mixed- methods study done in Kenya [25]. The preference for a contraceptive method may have implications for unintended pregnancy risk and HIV transmission. While barrier methods such as condoms are recommended to prevent transmission of HIV to sero-discordant partners, they are not as effective as hormonal methods, the implant, the IUD, and sterilization at preventing pregnancy [28].

In a 2018 study done in the United States, which included 2,228 women living with HIV, 59.7% reported condom use as a form of contraception while only 5% reported use of a highly effective method such a long active reversible contraceptive. Unplanned pregnancies were reported among 671 of the population of 2,228 women [14]. The male condom was the most commonly reported method of contraception in other studies conducted among women living with HIV who were receiving care [9,26,28]. Contrasting findings were noted in a 2018 study conducted in Uganda [10], the hormonal implants and injections were the preferred method of contraception. Dual method contraception, which includes condoms, and a more effective method of contraception has been recommended by WHO [29]. However, in studies where researchers specifically investigated this, dual method use was quite low [13,26,28].

Having three or more children, not being sexually active, and receiving family planning information from the HIV clinic were associated with contraceptive use. Fear of side effects and lack of information were the most common reasons for non-use. Qualitative findings further revealed that motivations for contraceptive use were influenced by health concerns, partner dynamics, and clinical advice, while barriers included side effects, inadequate counseling, and negative provider attitudes. The perception that contraception responsibility rests solely with women underscores persistent gender inequities in reproductive health, reflecting global evidence that improved provider-client communication and attention to gender norms are essential to strengthen family planning uptake among WLHIV.

Concerns about side effects were reported by both users and non-users of contraceptives. Women who continued use despite adverse effects cited lack of financial support, fear of abortions, and preventing HIV transmission to their child as key motivations, consistent with findings by Mayhew et al. [25]. The preference for male condoms may reflect concerns about side effects from long-acting methods and the dual protection condoms provide against pregnancy and sexually transmitted infections. Additionally, male condoms are readily available in HIV clinics.

Qualitative findings also help explain why receiving family planning information was associated with contraceptive use: women reported that guidance from their doctors influenced their decisions, aligning with studies from South Africa [27]. However, negative attitudes from some health care workers were identified as a deterrent, with participants feeling judged—a notable finding not widely reported in the literature.

Overall, these results suggest that integrating family planning into HIV care, providing respectful and comprehensive counseling, and expanding method options may substantially improve contraceptive uptake and reduce mother-to-child transmission in Guyana. However, this study has some limitations. Contraceptive use is a sensitive topic therefore social desirability bias may have resulted in over reporting of contraceptive use. Furthermore, participants were asked to recall information which may have caused emotional distress. The researchers provided opportunities for participants to be linked to a social worker as was needed. Also, family planning material was shared with patients. Nevertheless, a strength of this study is that individual level factors as well as those related to service provision were considered.

Limitations

This study had several limitations and delimitations. Social desirability bias may have influenced responses, as some women living with HIV may not have accurately reported their contraceptive use due to stigma or fear of judgment from health care providers. To minimize this, data were collected anonymously using a self-administered online questionnaire, though some residual bias may still have been present. Time constraints, which are common in mixed-methods research, were addressed by using

an online survey; however, this may have limited participation among women with low digital literacy or inadequate internet access, introducing potential selection bias. Recall bias also posed a challenge, as participants were not always able to accurately report clinical details such as disease stage or viral load; this was mitigated by verifying data with medical records, although gaps in documentation may have affected accuracy. Finally, because the study was conducted in selected urban health facilities, the findings may not be fully generalizable to all women living with HIV in Guyana, particularly those residing in rural or hinterland communities where access to healthcare services and contraceptive options may differ substantially.

This study also had several strengths. It was the first of its kind in Guyana to examine contraceptive use specifically among women living with HIV, addressing an important knowledge gap in the local context. The use of a mixed-methods design allowed for a more comprehensive understanding of both the prevalence of contraceptive use and the perceptions of women regarding facilitators and barriers, thereby enriching the findings. The anonymity of the self-administered online questionnaire reduced interviewer bias and encouraged more candid responses from participants. Verification of clinical data with medical records strengthened the reliability of the findings by minimizing recall errors. Finally, ethical principles were upheld throughout the research process, with informed consent obtained and strict measures implemented to ensure confidentiality and secure data management.

Conclusion

In conclusion, this study found that less than fifty percent of the participants were using a method of contraception. Among those who were using contraception, their perception of having knowledge of contraceptives and receiving family planning services from their HIV clinic were some of the factors associated with contraceptive use. It is noteworthy that participants identified the negative attitudes of health care workers as a deterrent to contraceptive use. This therefore highlights the critical need for integration of family planning into HIV care services and ongoing training of health care workers, so they develop the competence to discuss contraceptive use with women. Future research should employ a longitudinal approach to detect changes in the family planning needs of WLHIV over time. Additionally, men's perceptions of family planning should be explored.

Author Contributions

All three authors were actively involved in the conception and design of the study, as well as in data collection, analysis, and interpretation. Each author critically reviewed the final manuscript and approved it for submission. They collectively accept responsibility for the work and agree to address any concerns regarding its accuracy or integrity.

Funding

This research received no external funding.

Institutional Review Board Statement

Approval to conduct the study was granted by the IRB of the Ministry of Public Health of Guyana (New Protocol No: 103/2024).

Data Availability Statement

Data is available on reasonable requests from the corresponding Author.

Acknowledgments

The authors sincerely thank the staff of the clinics for their collaboration during data collection, and the women who generously participated in the study.

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