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Access to and Willingness to Use Pre-Exposure Prophylaxis (PrEP) for HIV among Men Who Have Sex with Men in Conakry, Guinea, in 2024

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Abstract

Background: Pre-exposure Prophylaxis (PrEP) is an effective HIV prevention method recommended by WHO since 2011 for key populations at high risk, such as men who have sex with men (MSM), people who inject drugs, and sex workers. In Guinea, national 2023-2027 AIDS strategies aim to reduce incidence within this group. However, data on PrEP access and willingness to use it remain scarce. This study assessed PrEP access and factors influencing its uptake among MSM to address this critical gap in Conakry city. **Methods:** This cross-sectional analytical study was conducted from April 15 to June 15, 2024, among MSM in Conakry, Guinea. Eligible participants self-identified as MSM, reported being HIV-negative, and consented to participate. Data were collected via structured questionnaires on Kobocollect by trained interviewers. Recruitment occurred at two MSM care centers and through network referrals, with interviews conducted in confidential locations. Descriptive analysis summarized numeric and categorical variables. Multivariate logistic regression identified factors associated with unwillingness to use PrEP, coding willingness as "1" and unwillingness as "0". Adjusted odds ratios (AOR) with p-values ≤ 0.05 indicated statistically significant associations. **Results:** This study surveyed 460 MSM in Conakry, with a mean age of 27 ± 7 years. While 76.85% had heard of PrEP. After detailed explanations, 78.64% expressed willingness to adopt PrEP, but only 8.21% had used it at moment of data collection. The barriers of unwillingness to adopt PrEP included low perceived HIV risk (33.13%), stigma (18.16%), medication adherence challenges (10.12%), and overconfidence in protective practices (7.22%). Multivariate analysis revealed that being single (adjusted OR: 1.45), lower education levels (no formal: 1.68; primary: 1.54), regular sexual partners (1.68), and specific sexual practices

(penetrative: 1.66; oral: 1.54) significantly reduced PrEP acceptance. Findings highlight the need for targeted interventions. **Conclusion:** This study reveals that, although most men who have sex with men (MSM) are willing to use PrEP as a means of reducing the risk of HIV transmission, their access to this treatment remains limited. This highlights the need to strengthen the integration of PrEP services into key population care centers while supporting community initiatives from MSM associations. To better understand the variability in willingness to use PrEP and to assess access among MSM, we recommend conducting a nationwide study covering all regions of Guinea, combining both quantitative and qualitative approaches.

Keywords

Pre-Exposure Prophylaxis, HIV/AIDS, Willingness to Use, Access, Conakry

1. Introduction

Pre-exposure Prophylaxis (PrEP) is an HIV prevention method that involves the continuous or intermittent use of antiretroviral treatment to prevent potential exposure to the virus [1]. Since 2011, the World Health Organization (WHO) has recommended PrEP for key populations, including men who have sex with men (MSM), people who inject drugs (PWID), sex workers, and others. These groups remain among the most at risk for HIV infection globally [2].

Studies conducted in Canada, France, and the United Kingdom in 2016 demonstrated that PrEP is 97% effective at preventing HIV among key populations [3]. Numerous randomized clinical trials have also confirmed that oral PrEP significantly reduces HIV incidence among high-risk, HIV-negative individuals. These findings have led more than 40 countries, including the United States, the United Kingdom, and Australia, to adopt PrEP as a preventive strategy for HIV [3] [4].

In France, PrEP has been available and used by key populations since 2016, with notable adoption—22% of new users in 2021 [5]. In the United States, where MSM accounted for 2% of the population living with HIV in 2015, the national HIV/AIDS strategy aims to increase PrEP use among MSM, PWID, and sex workers [6].

In India, a study conducted in Coimbatore, Belgaum, and Bangalore between 2016 and 2017 found that 99% of MSM were willing to use PrEP. However, actual usage within this group remained limited to 2.7% in the country [7].

In sub-Saharan Africa, which accounts for more than 50% of global HIV cases, access to PrEP and willingness to use it among key populations remain insufficiently documented [8]. In Rwanda, for instance, where 10% of MSM living in Kigali are HIV-positive, PrEP has been integrated into the national HIV prevention strategy since 2019 [9]. A study conducted in Zimbabwe in 2022 revealed that most men who have sex with men (MSM) (71.1%) had never used PrEP, despite

expressing willingness to start using it. The main barriers to its adoption were a lack of awareness about access points (24.8%) and concerns about side effects (20.4%) [10]. Another study conducted in two South African districts in 2021 found that 49.0% of participants were willing to use PrEP [11].

In Guinea, HIV prevalence is particularly high among MSM, reaching 9.8%, compared to 1.5% in the general population [12]. The national strategic frameworks against AIDS for 2023-2027 aim to reduce HIV incidence within this group, in line with WHO recommendations [2]. On the operational level, Guinea has focused on developing tailored services and establishing community centers, while also integrating private community-oriented healthcare facilities to provide PrEP services to men who have sex with men (MSM), sex workers, and other key populations. However, the implementation of this approach remains slow, as the targeted healthcare facilities still lack some essential supplies [12]. Data on PrEP access and willingness to use it among key populations in Guinea remain limited, highlighting the need for this study.

This research, conducted in 2024 in Conakry, aimed primarily to assess PrEP access and willingness to use it among MSM. Specifically, it sought to identify factors influencing PrEP access and usage within this group.

The results provide valuable insights into the dynamics surrounding PrEP in Conakry. These findings will enable stakeholders involved in HIV prevention in Guinea to improve the planning and coordination of PrEP services to effectively meet the needs of MSM in the country.

2. Methods

2.1. Study Type and Period

This was a cross-sectional analytical study conducted from April 15 to June 15, 2024.

2.2. Study Setting

Guinea is a West African country with an area of 245,857 km^2. In 2024, its population was estimated at 14.4 million, with 40.4% living in urban areas. The population is predominantly young, with an average age of 18 years and a literacy rate of 40% in 2018. It is also worth noting that 44% of the population lives below the poverty line [13].

As part of Guinea's response to HIV/AIDS, the National Committee for the Fight Against AIDS (CNLS) serves as the political, strategic, and decision-making body with broad multisectoral representation, ensuring the implementation of the national framework to combat HIV/AIDS. It operates under the supervision of the Prime Minister's Office [14]. The National Program for the Fight Against AIDS and Hepatitis (PNLSH), under the Ministry of Health and Public Hygiene, coordinates and implements the country's HIV response activities. The program's main interventions aim to reduce infections among vulnerable populations, decrease mortality among people living with HIV (PLHIV), and strengthen govern-

ance and resilience of the AIDS response for improved local responses and strategic information availability [15].

The study was conducted in two care and support centers for men who have sex with men (MSM): the Key Population Community Center in Minière and the Fraternité Médicale de Guinée (FMG) center in Hafia. Both centers are in Conakry. As of 2024, Conakry, the capital city of Guinea, had an estimated population of over 2 million [13].

2.3. Study Population

The study focused on MSM residing in Conakry during the study period. Included were individuals who self-identified as MSM, declared themselves HIV-negative, and consented to participate. Excluded were MSM who had not lived in Conakry for at least three months prior to data collection.

2.4. Study Variables

- **Definition of variables**

Data were collected on sociodemographic characteristics (age, education level, occupation, marital status, and monthly income), knowledge of PrEP (awareness of PrEP, having seen PrEP medication), sources of information on PrEP, willingness to use PrEP, and access to PrEP.

- **Outcome variables**

Willingness to Use PrEP: This was defined as the proportion of MSM who expressed willingness to use PrEP after being provided with explanations about what PrEP is, its advantages in preventing HIV infections, and how PrEP medications should be used. Participants were asked: "After all these explanations, how likely are you to use PrEP?" Response options were: "no chance", "undecided", "very likely", "unlikely", or "somewhat likely". For data analysis, responses were dichotomized: participants answering, "no chance", "undecided", or "unlikely" were coded as "0" (unwilling to use PrEP), while those answering, "very likely" or "somewhat likely" were coded as "1" (willing to use PrEP).

Access to PrEP: This was defined as the proportion of participants currently using PrEP at the time of data collection. Participants were asked: "Are you currently using PrEP to prevent HIV infection?" Responses were coded as "0" (No) or "1" (Yes).

2.5. Sampling and Sample Size

A convenience sampling method with a snowball technique was used. Initially, MSM attending the two care and support centers for key populations in Conakry were interviewed through referrals from center staff, peer educators, association leaders, and organizations implementing HIV prevention interventions. These initial participants connected researchers to others in their networks until the desired sample size was reached. The sample size was calculated using Schwartz's formula:

$$n = \frac{z^2 \cdot p \cdot q}{d^2}$$

where:

n = minimum sample size;

z = 1.96 (95% confidence interval);

p = proportion of MSM willing to use PrEP (50%, as no prior data was available for Guinea);

$q = 1 - p$;

d = margin of error (0.05).

The calculated minimum sample size was 384 MSM. To account for non-response or incomplete data, a 20% adjustment was applied, resulting in a target sample size of 460 MSM.

It is important to note that snowball sampling is a valuable method for reaching hard-to-access populations. However, it can introduce biases that may affect the representativeness and validity of the results. To minimize these biases, we adopted the following approaches:

- Diversification of starting points: At both survey sites, we selected multiple initial MSM participants from different networks to reduce sample homogeneity.
- Expanding recruitment: Each initial MSM participant was encouraged to recruit at least one MSM outside their immediate circle, thereby reducing the influence of homogeneous social networks.
- Increasing data collection sources: In addition to the two main data collection sites, the team visited several MSM gathering places to broaden the sample and enhance the diversity of participants.

2.6. Data Collection

Data were collected through individual structured questionnaires designed on the Kobocollect platform. Interviews were conducted by master's in public health candidates from Gamal Abdel Nasser University in Conakry. Data collection began in the two MSM care centers in Conakry with the approval of the center administrators. MSM interviewed at these centers referred data collectors to others in their networks. Those contacted outside the centers were interviewed in confidential locations of their choosing.

2.7. Data Analysis

Data were exported from Kobocollect to Microsoft Excel 2016 for cleaning, then to Stata 17 for analysis. Descriptive analysis summarized numeric variables as means with standard deviations, while categorical variables were summarized as percentages with 95% confidence intervals.

Multivariate logistic regression was used to identify factors associated with unwillingness to use PrEP among MSM in Conakry. In the regression model, MSM unwilling to use PrEP were coded as "0", and those willing to use PrEP were coded as "1". Adjusted odds ratios (AOR) were calculated as measures of association,

with a p-value ≤ 0.05 considered statistically significant.

3. Results

3.1. General Characteristics of Participants

This study, conducted with 460 men who have sex with men (MSM) in Conakry, highlighted key information about their demographic characteristics and behaviors. Among the participants, 32.91% resided in the Matoto commune.

The MSM were predominantly young, with a mean age of 27 ± 7 years. The age group 25 - 34 years was the most represented, accounting for 61.55% of the sample, followed by those aged 20 - 24 years (25.79%). Most participants were single (86.78%), and more than half (55.85%) had attained a higher level of education. Professionally, 35.44% of the MSM were unemployed, while 21.2% were pupils or students. The median monthly income of the participants was 872,000 Guinean francs.

Regarding sexual preferences and practices, 30.87% of the MSM expressed no preference for their partners. A majority (59.18%) reported having regular sexual partners, and 90.35% of the participants reported engaging in penetrative sexual intercourse. For condom use, 4.59% of the MSM indicated they never used condoms, while 8.07% reported using them occasionally. In terms of HIV prevention, 68.51% of participants stated they had undergone an HIV test within the 12 months preceding the survey. Most of these tests were performed on a voluntary basis (Table 1).

Table 1. General characteristics of men who have sex with men (MSM) in Conakry in 2024.

Variables	Number	Percentage (%)
Communes		
Dixinn	108	23.58
Kaloum	41	8.86
Matam	41	8.70
Matoto	151	32.91
Ratoma	119	25.95
Age		
Average age (± SD)	27 years ± 5	
> 20 years	12	2.69
20 - 24 years	118	25.79
25 - 34 years	283	61.55
35 - 44 years	29	6.01
45 years and above	18	3.96

Continued

Marital Status		
Single	400	86.87
Divorced/Widowed	16	3.48
Married/Common-law union	44	9.65
Having Children		
Yes	117	25.47
No	343	74.53
Education Level		
None	23	5.06
Primary	22	4.75
Secondary	158	34.34
Higher/University	257	55.85
Occupations		
No occupation	163	35.44
Student	97	21.20
Informal activities	87	18.83
Employed (public/private)	113	24.53
Monthly Income		
Median (IQR)	872,000 (300,000; 2,000,000)	
Less than 100,000 GNF	21	4.49
100,000 - 400,000 GNF	82	17.88
400,000 - 500,000 GNF	49	10.60
500,000 - 1,000,000 GNF	119	25.95
1,000,000 - 2,000,000 GNF	101	21.98
2,000,000 - 3,000,000 GNF	58	12.60
3,000,000 GNF and above	30	6.50
Sexual Partner Preferences		
No preference	142	30.87
Single MSM	44	9.57
Married MSM	30	6.52
Single MSM with receptive and insertive intercourse	29	6.30
Married MSM with receptive and insertive intercourse	215	46.74

Continued

Having a Regular MSM Sexual Partner		
No	188	40.82
Yes	272	59.18
MSM Sexual Practices		
Insertive sex	416	90.35
Receptive sex	306	66.61
Oral sex	383	83.23
Condom Use Frequency with MSM Partners		
Never	21	4.59
Occasionally	37	8.07
Every time	293	63.61
Very often	109	23.73
HIV Testing in the Last 12 Months		
No	145	31.49
Yes	315	68.51
Circumstances of HIV Testing in the Last 12 Months		
HIV diagnosis	41	13.16
Voluntary testing	248	78.75
Provider-initiated testing	12	3.70
Mandatory testing (travel & work)	7	2.31
Self-testing	7	2.08
Receiving HIV Test Results in the Last 12 Months		
No	26	8.40
Yes	289	91.60

- **Knowledge, willingness to use, and access to PrEP**

This study reveals that 76.85% of men who have sex with men (MSM) had heard of pre-exposure prophylaxis (PrEP), a critical tool in the fight against HIV/AIDS, specifically designed for key populations. The primary sources of information reported were discussions with friends (21.15%) and healthcare facilities (18.16%).

After receiving detailed explanations about PrEP and its benefits for HIV pre-

vention, 78.64% of MSM expressed their willingness to adopt this preventive strategy. However, at the time of data collection, only 8.21% of MSM reported having used PrEP (Table 2).

Table 2. Knowledge and willingness to use PrEP and access to PrEP among men who have sex with men (MSM) in Conakry in 2024.

Variables	Number	Percentage (%)
Knowledge of PrEP (Heard About PrEP)		
No	106	23.04
Yes	354	76.96
Already Seen the PrEP Drug		
No	100	29.13
Yes	245	70.87
Sources of Information on PrEP		
Radio	14	4.12
TV	9	2.51
Internet	66	19.1
Awareness	7	2.01
Health training	63	18.16
Chats between friends	73	21.15
Sexual partners	31	9.12
Others	6	1.88
Chance of Using PrEP (After Investigators' Explanations)		
No chance	71	15.5
Undecided	14	3.01
Very good luck	206	44.78
Very little chance	13	2.85
A certain luck	156	33.86
Willingness to Use PrEP		
No will	98	21.36
Will	362	78.64
Access to PrEP (Current PrEP Use in Sample)		
No Access	422	91.79
Access	38	8.21

Continued

Place of Supply of Medication for PrEP		
Private health training	29	76.32
Private pharmacy	6	15.79
Public Structures	2	5.26
Others	1	2.63

- **Reasons for reluctance to use PrEP**

During our survey of MSM who expressed unwillingness to use PrEP, several key reasons for refusal were identified (Figure 1): lack of perceived risk of HIV infection (33.13%), fear of social stigma, particularly being associated with someone living with HIV/AIDS (18.16%), challenges related to the daily intake of medication (10.12%) and overconfidence in their protective practices during sexual encounters (7.22%).

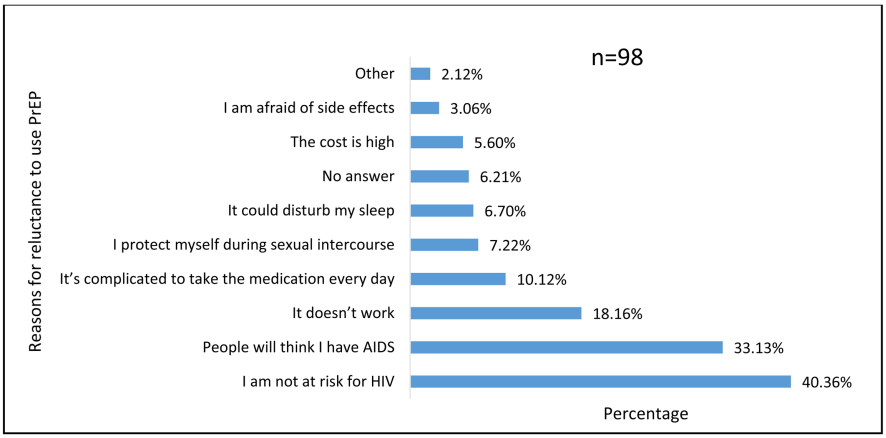

Figure 1. Main reasons for reluctance to use PrEP among men who have sex with men (MSM) in Conakry in 2024.

3.2. Factors Associated with the Unwillingness to Use PrEP (Multivariate Analysis)

The results of the multivariate analysis reveal that certain factors negatively influence the willingness to use PrEP among men who have sex with men (MSM). Single MSM are more likely to refuse PrEP compared to married MSM or those in a consensual union (adjusted OR: 1.45; 95% CI: 1.22 - 2.02). Additionally, the level of education plays a significant role. MSM with no formal education (adjusted OR: 1.68; 95% CI: 1.55 - 2.64) and those with only primary-level education (adjusted OR: 1.54; 95% CI: 1.22 - 2.03) are more reluctant to adopt PrEP compared to MSM with a university-level education.

Moreover, MSM with regular sexual partners are more likely to reject PrEP (adjusted OR: 1.68; 95% CI: 1.37 - 2.56) compared to MSM without regular sexual partners. Finally, MSM engaging in penetrative sexual intercourse (adjusted OR:

1.66; 95% CI: 1.22 - 2.03) and those practicing oral sex (adjusted OR: 1.54; 95% CI: 1.24 - 2.12) are more likely to refuse PrEP compared to MSM practicing receptive sexual intercourse (Table 3).

Table 3. Factors associated with the unwillingness to use PrEP among men who have sex with men (MSM) in Conakry in 2024.

Variables	Unwillingness to Use PrEP (%)	Adjusted OR (95% CI)	p-value
Communes			
Dixinn	19.12%	1	-
Kaloum	19.31%	0.98 (0.76 - 1.12)	0.341
Matam	20.11%	0.99 (0.88 - 1.33)	0.231
Matoto	19.21%	0.85 (0.90 - 1.55)	0.531
Ratoma	25.16%	1.36 (1.12 - 2.05)	0.032
Age			
>20 years	21.46%	1.212 (0.89 - 1.651)	0.541
20 - 24 years	20.29%	0.87 (0.76 - 0.99)	0.432
25 - 34 years	20.89%	0.92 (0.85 - 1.321)	0.652
35 - 44 years	21.76%	1.325 (0.97 - 1.247)	0.0713
45 years and above	19.22%	1	-
Marital Status			
Single	22.32%	1.45 (1.22 - 2.02)	0.043
Divorced/Widowed	26.12%	1.69 (1.34 - 2.321)	0.036
Married/Common-Law Union	18.45%	1	-
Educational Level			
None	27.18%	1.86 (1.55 - 2.64)	0.412
Primary	23.71%	1.54 (1.22 - 2.03)	0.002
Secondary	16.21%	1.11 (0.99 - 1.56)	-
Higher/University	15.67%	1	-
Regular MSM Partner			
No	18.23%	1	-
Yes	26.34%	1.68 (1.37 - 2.56)	0.023
Sexual Practices of MSM			
Penetrative Intercourse	25.12%	1.66 (1.22 - 2.03)	0.023
Fellatio	24.38%	1.54 (1.24 - 2.12)	0.019
Receptive Intercourse	18.16%	1	-

4. Discussion

The HIV/AIDS epidemic remains a major public health concern, particularly in sub-Saharan Africa, which accounts for more than 50% of the 39.9 million people living with HIV worldwide [2]. The advent of antiretroviral therapy (ART) has revolutionized the management of this disease, transforming it into a chronic condition. Thanks to these treatments, new HIV infections decreased by 39% between 2010 and 2023, dropping from 2.1 million to 1.3 million cases [8]. However, HIV prevalence remains very high among key populations, such as men who have sex with men (MSM), people who inject drugs, and sex workers, as is the case in many countries [8]. Until an effective vaccine is developed, it is essential to implement innovative approaches to prevent HIV transmission within these groups. In this regard, the World Health Organization (WHO) strongly recommends the use of pre-exposure prophylaxis (PrEP) with antiretrovirals for these populations [8]. In Guinea, the 2018–2022 National Strategic Plan for Combating AIDS prioritized the promotion of PrEP [16]. However, despite this commitment, there is a lack of data on the willingness to use and accessibility of PrEP among key populations.

An analytical cross-sectional study conducted with 640 MSM in Conakry revealed that 7 MSM out of 10 had heard about PrEP as a means of HIV prevention. But only 1 MSM out of 10 reported using PrEP at the time of the study. The analysis of this study's findings also highlighted several factors influencing the willingness to use PrEP, including marital status, education level, having a regular MSM partner, and sexual practices. These results underscore the need to strengthen awareness, access, and use of PrEP among key populations in Guinea to better control the HIV/AIDS epidemic.

In this study, we found that 76.85% of men who have sex with men (MSM) in Conakry were aware of pre-exposure prophylaxis (PrEP) prior to the survey. After detailed explanations about PrEP, this figure increased to 78.64%, expressing a willingness to use PrEP to prevent HIV/AIDS infection. Compared to studies conducted in India, Thailand, and Vietnam [7] [17]-[23], the level of PrEP knowledge among MSM in our study was higher. However, our findings regarding willingness to use PrEP were comparable to theirs. A study conducted in Rwanda [9], also showed similar results to ours concerning the willingness to use PrEP among MSM. Similarly, a study conducted in Nigeria in 2029 by Adedotun Ogunbajo and his collaborators revealed similar findings, with 80.1% of participants expressing their willingness to use PrEP [24]. The observed difference in the level of knowledge about PrEP among men who have sex with men (MSM) could be explained by the study context. Our research was conducted in the Guinean capital, where access to information about PrEP is likely better compared to rural areas in the interior of the country. Conversely, the study conducted in India included MSM from all regions, whether urban or rural. This difference could also be attributed to the timing of the studies. Recent efforts to raise awareness and promote PrEP may explain the relatively high level of knowledge observed among MSM in our survey.

However, while our study shows a higher rate of awareness compared to other studies, this level remains below the set targets, which generally aim for 95% coverage in awareness and information dissemination. This underscores the need to strengthen communication and community mobilization interventions around the use of PrEP, specifically targeting key populations in the fight against HIV/AIDS. Structural and financial support for MSM organizations is a critical strategic intervention, as these associations serve as a vital channel for promoting PrEP use and raising awareness within this community.

Although most men who have sex with men (MSM) surveyed expressed a strong willingness to use PrEP (78.64%), our findings reveal limited access to these services in Conakry. In fact, only 8.21% of MSM were using PrEP at the time of the survey.

This limited access can be attributed to several factors, including the insufficient availability of PrEP services at sites tailored to the needs of MSM, like comprehensive care programs for people living with HIV. Additionally, a lack of information about the availability of PrEP services, financial barriers, and the location of centers that are sometimes exposed to the general population further exacerbate this situation. These obstacles hinder access to care and increase the risk of HIV infection among MSM. It is therefore essential for Guinea's health policies to integrate PrEP services into sites dedicated to MSM care, intensify information campaigns about PrEP availability, and reduce financial barriers to improve access.

Our study also revealed that some MSM reported being unwilling to use PrEP. The main reasons cited to explain this reluctance include: the feeling of not being at risk of HIV infection, the fear of being perceived as HIV-positive, lack of confidence in the effectiveness of PrEP, and fear of the side effects associated with taking the medication. These results are consistent with several studies that highlight that the perception of low vulnerability to HIV, fear of side effects, and apprehension about being stigmatized as someone living with HIV are among the main barriers to PrEP adoption among MSM [7] [25] [26]. The results of our study on the reluctance of some MSM to use PrEP highlight the urgency of implementing strategies to overcome the barriers to its adoption in Guinea. This requires better education and information for MSM on the benefits of PrEP, as well as strengthening efforts to uphold their rights to access healthcare. Initiatives to reduce stigma within the MSM community are also essential to ensure increased demand for and use of PrEP.

Following a multivariate regression analysis, we identified several factors significantly associated with the unwillingness to use PrEP among men who have sex with men (MSM) in Conakry. These factors include marital status (being single), low education level, having a regular MSM partner, and engaging in oral sex. These findings align with those observed in several previous studies conducted in Rwanda, Brazil, India, Myanmar, China, and South Korea [27]-[29], which reported similar conclusions. This result underscores the importance of integrating social and economic determinants into the planning and implementation of pub-

lic health interventions, particularly those aimed at specific populations, such as men who have sex with men (MSM).

Based on the results discussed above, we recommend that the Ministry of Health and Public Hygiene, along with its National Program for the Fight against AIDS and Hepatitis, strengthen awareness and information campaigns targeting MSM on the importance of PrEP. It is also essential to train MSM associations and community centers in the implementation of initiatives promoting PrEP. Finally, these centers and specialized healthcare services for MSM should be supplied with the necessary medications and inputs to support the promotion and accessibility of PrEP.

5. Strengths and Limitations of the Study

This study is one of the first in Guinea to address the issue of willingness to use and access to pre-exposure prophylaxis (PrEP) for HIV/AIDS among men who have sex with men (MSM). It included a large sample of MSM from the city of Conakry, which has the largest MSM population in the country. However, several limitations must be considered:

- Snowball sampling method: While effective, this method may introduce selection biases, as the sample is formed based on recommendations from previously identified participants. This can lead to a lack of diversity in the responses and influence results according to participants' social connections and networks. To minimize this effect, we sought recommendations from various groups and networks to increase participant diversity. Additionally, we used the two MSM care sites in Conakry as the identification base, which helps reduce biases related to the social or professional networks of the participants.
- Geographical limitation to Conakry: The study was conducted solely in the capital, where access to healthcare services is generally better than in other regions of the country. As a result, estimates of MSM access to PrEP in Conakry may be higher than in other regions of Guinea. We therefore recommend conducting a similar study in other regions to gain a more comprehensive understanding of the national situation.
- A thorough analysis of the reasons for refusing to use PrEP through qualitative methods is lacking. However, such data would help better understand the complex barriers and the factors that promote its adoption.

Despite these limitations, this study provides a solid foundation for Guinea's HIV and Hepatitis Program. It offers key recommendations for adjusting PrEP promotion interventions for MSM, while including actions to reduce stigma. In this regard, PrEP could play a crucial role in reducing HIV incidence in Guinea.

6. Conclusion

This study reveals that, although a significant proportion of men who have sex with men (MSM) express a willingness to use pre-exposure prophylaxis (PrEP) as

a means of reducing the risk of HIV transmission, their access to this potentially life-saving treatment remains severely limited. This highlights the urgent need to strengthen the integration of PrEP services into existing healthcare facilities that specifically cater to key populations, including MSM. Furthermore, it is essential to support and promote community-driven initiatives led by MSM associations to increase awareness and accessibility. To better understand the factors influencing the variability in willingness to use PrEP and to assess barriers to access among MSM, we strongly recommend conducting a nationwide study. This study should comprehensively cover all regions of Guinea and utilize a mixed-methods approach, combining both quantitative and qualitative research methods to obtain more nuanced and actionable insights.

Ethical Considerations

This study provides technical and scientific support from the Université Gamal Abdel Nasser de Conakry to the National Program for the Fight Against AIDS and Hepatitis of the Ministry of Health of Guinea. It aimed to assess the willingness to use PrEP (pre-exposure prophylaxis) and its accessibility among men who have sex with men (MSM) in Conakry, in alignment with the latest strategic frameworks for the fight against HIV/AIDS and sexually transmitted infections in Guinea. This research was conducted as part of a final thesis for the Master's in Public Health at the Université Gamal Abdel Nasser de Conakry in 2024.

The research protocol was approved by a dedicated scientific committee at the Université Gamal Abdel Nasser de Conakry and registered under the number 082/A/DC/FSTS/VDR/UGANC/RECT/2024. Official authorization was obtained from the responsible parties at the MSM care and support sites in Conakry before data collection began. Interviews were conducted in a manner that respected confidentiality. The names and contact details of the participants were neither included in the questionnaires nor in the database.

Informed consent, either verbal and/or written, was obtained from all participants before the interviews began. Participants had the freedom to terminate the interview at any time, without any pressure. The database was accessible only to the candidate and the supervisory team, in strict adherence to confidentiality and ethical standards. This approach was designed to ensure the protection of the participants and maintain the scientific integrity of the study.

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Data Availability Statement

Data collection was conducted by a Public Health Master candidate at the Faculty of Health Sciences and Techniques of the Gamal Abdel Nasser University of Conakry. Data analysis benefited from the technical support of the supervising team.

Authors' Contributions

NNL: Conceptualization and validation of the study, oversight of data analysis, manuscript drafting; **AKB**: Data collection and analysis, manuscript review. **AS**: Review of study design and manuscript; **AD**: Validation of study design, manuscript revision and validation.

Conflicts of Interest

The authors report no conflicts of interest regarding the conduct of this study or the publication of its findings.

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