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Estimating the Rate and Quantifying the Reasons for HIV Retesting in Previously Diagnosed People Living with HIV, A Cross-Sectional Study in Cameroon

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Abstract

HIV Testing Services remain critical as the entry point into HIV prevention and treatment programs. However, retesting of people who already know their HIV-positive status can waste test kits, personnel time, and laboratory resources and pose a retention problem. We estimated retesting rates, reasons, strategies, and re-engagement approaches. We conducted a cross-sectional study in 15 high-volume Health Facilities in Cameroon's West Region, sampling clients aged 15+ who tested HIV positive from April to August 2024. Data collection involved interviews, electronic medical records, and focus groups. Quantitative data was analyzed with SPSS 26; qualitative data with NVivo 14.23.3. A total of 520 adult clients tested HIV positive and 98% consented (n = 509. The mean age was 39 and 58.90% were female (n = 300). This study found a retesting rate of 42.24% (n = 215, p = 0.001). The true positivity rate dropped from 2.44% to 1.43% after we deduplicated the known positives. The most common reason cited was the need to confirm the test results in 87 cases (40.5% p = 0.044). After receiving traditional treatment (30 cases, 14% p = 0.044), some patients returned for repeat testing, while others did so following healing prayers (27 cases, 12.6% p = 0.044). Reengagement in the care of known HIV-positive testers was 95.10%. We found a high rate of retesting, potentially biasing the yearly new HIV diagnoses. HIV testing programs could serve as gateways for re-engaging PLHIV who interrupt treatment, improving care continuity.

Keywords: *HIV, Known Positive, Previously Diagnosed, Reengagement, Retesting.*

Introduction

HIV testing is the main gateway into the prevention and treatment continuum to initiate those tested HIV positive on treatment to achieve viral load suppression and to link those tested HIV negative to prevention services [1]. Cameroon has made significant progress in diagnosing people living with HIV, moving from 55.6% in 2017 to 90% in 2022 of people living with HIV (PLHIV) who know their status [2, 3].

Despite progress made in identifying and retaining PLHIV on life-long treatment, programmatic data and spectrum estimates continue to show significant gaps in retaining patients on treatment [4, 5]. The question that arises is, therefore, are all the newly identified PLHIVs newly diagnosed, or have some been

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previously diagnosed and dropped out of treatment? Retesting is the practice of PLHIV who know their positive HIV status but still go for HIV testing for various reasons. The phenomenon of retesting people who already know their HIV status is a setback to HIV treatment programs because it constitutes a waste of already scarce resources like test kits, personnel time, and laboratory consumables [6]. It also gives inaccurate estimates of positivity rates in the country and poses a retention problem because people who interrupt treatment in one Health facility are recorded as newly on antiretroviral treatment (ART) in another facility [7, 8].

In Cameroon, to date, there is no systematic evidence estimating the rate of retesting in previously diagnosed PLHIV and quantifying the reasons for retesting in routine HIV testing services. This study is therefore imperative to estimate the rate of retesting in previously diagnosed PLHIV to support HIV testing and treatment targets estimation, identify the factors and reasons for retesting to inform tailored solutions and avoid waste of resources. This study also aimed at proposing strategies for HIV testing services to serve as pathways for re-engagement of protesters on ARV treatment and stopping the recycling of patients in HIV treatment programs.

Materials and Methods

Study Design

We conducted an analytical cross-sectional study in clients aged 15 years and above who tested HIV positive in 15 high-volume sites in the West Region of Cameroon from April through August 2024. The quantitative data collected through interviews using structured questionnaires, electronic medical records and HIV testing registers was analyzed using SPSS (version 26). NVivo (version 14.23.3) was used for the analysis of qualitative data from focus group discussions.

Study Location (Setting)

The study was conducted in the West Region, one of Cameroon's ten Regions. This study was conducted in 15 high-volume PEPFAR-supported sites where HIV Recency surveillance is being implemented. These 15 sites represent 72% of HIV-positive clients identified in the 28 PEPFAR-supported sites in Quarter 1 of FY24. The selected sites represent 80% of people living with HIV currently on treatment in the First Quarter of FY24. The study sites selected were; Regional Hospital Bafoussam, District Hospital Foumban, District Hospital Foumbot, District Hospital Mbouda, St Vincent de Paul Hospital, Regional Hospital Annex Dschang, Ad Lucem Banka-Bafang Hospital, District Hospital Bangangte, Ad Lucem Mbouda Hospital, Medicalized Health Center Magba, Medicalized Health Center Lafe Baleng, Medicalized Health Center Djeleng, CBC Bamendzi Hospital, Acha Annexe Tamdja Hospital and District Hospital Bafang. Fig. 1 below illustrates the repartition of the different administrative departments of the western region in which these health facilities were found.

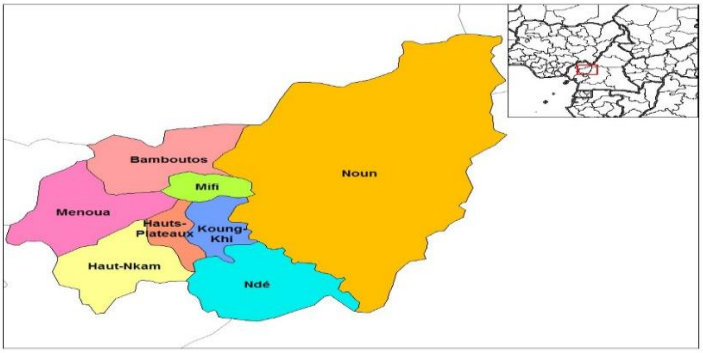

Figure 1. Administrative Map of the West Region Showing Divisions (Source – Wikipedia)

Participants

The study population were clients 15 years of age and above who were diagnosed HIV positive from the period April to August 2024 in the 15 selected sites. Healthcare providers offering routine HIV testing services constituted the study population for focus group discussions.

Inclusion Criteria

1. Clients accessing routine HIV testing services at all entry points who are tested HIV positive by the National Algorithm.
2. Aged ≥15 years.
3. Clients who gave voluntary informed consent to participate in the study.

Exclusion Criteria

1. Clients who opted out or did not consent.
2. Seriously sick HIV-positive clients who could not consent were excluded from the study.

Data Collection

Data collection was done by 15 data collectors with coordination from 4 supervisors. We used structured questionnaires, Electronic Medical Records (DAMA), HIV Testing Registers and focus group discussions.

Data was collected on a rolling basis as clients presented for routine HIV Testing Services. Consent was sought from all clients who tested HIV positive. The socio-demographic data of patients who tested HIV positive and who consented to the study was manually collected from the HIV Testing Registers (Quality Assurance Registers). The data collectors then conducted interviews using a guided questionnaire to collect data on previous diagnoses, risk factors and motives for retesting.

We then cross-checked the patients' information through the Country's HIV electronic medical records system DAMA to determine if the person was previously on treatment in the system. The data was entered into an Excel database and SPSS.

We conducted focus group discussions with Health care providers working in routine HIV testing services. This was to assess their knowledge, attitude and practice of HIV retesting in previously diagnosed persons.

Data Validity and Reliability

We ensured the content and construct validity of the questionnaire by working in collaboration with experts in HIV care and treatment programs. We did a pilot to field-test the tools in the East Region of Cameroon (n = 20) and data collectors were trained. We used both quantitative and qualitative data collection methods to address the research questions from multiple perspectives. Equally, the use of focus group discussions with healthcare professionals captured insights from those with expert knowledge of the HIV testing and retesting processes and reflected real-world challenges, alignment with observed realities and solutions.

Daily monitoring and correction of data was done by the supervisors and the principal investigator who regularly checked the data for completeness and consistency. SPSS (version 26) and NVivo (version 14.23.3) were used consistently throughout the study. The findings were cross-checked with existing literature and best practices in HIV testing and treatment to ensure that the study's conclusions were consistent with established knowledge, further enhancing the reliability of the results.

Data Analysis

Data completeness and consistency were checked and corrected daily by the principal investigator. The data analysis used both quantitative and qualitative methods, following a rigorous approach to addressing specific objectives. The quantitative data was analyzed using SPSS (version 26), while NVivo (version 14.23.3) was used to facilitate the coding and analysis of qualitative data. Each objective was assigned an appropriate analytical framework,

ensuring relevant and accurate insights to answer the research questions.

To determine the HIV retesting rate, a quantitative analysis was conducted using SPSS version 28. To understand the determinants of retesting, a statistical analysis was performed using bivariate and multivariate logistic regressions to assess between retesting and various factors.

Ethical Considerations

Privacy and confidentiality of study subjects and personally identified information (PII) were assured by securely storing study data in locked cupboards, signing of confidentiality agreement by the study team (health personnel), obtention of consent from participants and use of passwords on all computers used for data entry/analysis. Data was anonymous and PII was de-identified before analysis. We obtained administrative authorization from the West Regional Delegation of Public Health (reference number 093/MINSANTE/SG/DRSPOICBF) and the study protocol was approved by the West Regional Ethics Committee (reference number 961/27/03/2024/CE/CRERSH-OU/VP).

Results

Study Participants

The majority (58.9% p = 0.003) of participants were female and the median age was 39 years. The mean age at first marriage was 20 (p = 0.001) and the average number of sexual partners was 6 per participant. Most 30.3% (p = 0.001) of the participants were farmers and 20.8% were working in the informal sector. In terms of marital status, 33.2% were single, 38.3% married and 10.6% were cohabiting. The most (81,5%) distributed age range was [25-59]. See Table 1.

Table 1. Demographic Characteristics of Clients Tested HIV-Positive

Characteristic (N = 509)	**Frequency**	**Percentages**	**p-value**
Gender			
Female	300	58,90%	0,003
Male	209	41,10%	
Profession			
Farmer	154	30,30%	0,001
Retailer	83	16,30%	
Teacher	2	0,40%	
Student	40	7,90%	
Public servant	42	8,30%	
Informal sector	106	20,80%	
Sex worker	19	3,70%	
Domestic worker	63	12,40%	
current marital status			
Single	169	33,20%	0,002
Cohabiting	54	10,60%	

Married	195	38,30%	
Separated	35	6,90%	
Widowed	56	11,00%	
Participants Age range			
[15-19]	9	1,80%	0,001
[20-24]	56	11,00%	
[25-59]	415	81,50%	
60+	29	5,70%	

HIV Retesting Rate in Previously Diagnosed PLHIV

A total of 520 clients were tested HIV positive from 20,819 tested. Consent was obtained from 509 people with a positive HIV test out of 520, for a refusal rate of 2.12%.

We collected data from the 509 tested HIV positive participants who consented to the study. Using mixed methods of structured interviews and electronic medical records, we distinguished 294 of these clients as newly tested HIV positive and 215 as repeat testers. See Table 2.

The retesting rate is 42.24% p = 0.001.

Table 2. Distribution of Clients Tested HIV Positive into Repeat Testers and Newly Tested

HIV Test Status	**Frequency**	**Percentage (%)**
New Cases	294	57.8
Known Cases (retesting rate)	**215**	**42.2**
Total	509	100

True Positivity Rate

We observed that the positivity rate significantly reduced from 2.44% to **1.43%** when we deduplicated repeat testers from clients who tested HIV positive. We deduplicated repeat testers (n = 215) from both the numerator, being the total number tested HIV positive who consented (509) and the denominator being the total number of clients tested in the 15 high-volume Health Facilities during the study period (20,819). This is shown in Table 3.

Table 3. Showing Positivity Rates Before and After Deduplication of Repeat Testers

	n	**Seropositivity rate**
Total positive	509	**2.44%**
Total new positive	294	**1.43%**
Total tested	20819	

Factors Associated with HIV Retesting in Previously Diagnosed PLHIV

Analysis of Reasons Cited by Patients

The analysis of patient motivations for retesting (Table 4) revealed various reasons. The most common reason cited is the need to confirm the test results in 87 cases (40.5% p =

0.044). After receiving traditional treatment (30 cases, 14% p = 0.044), some patients returned for repeat testing, while others did so following healing prayers (27 cases, 12.6% p = 0.044). Additionally, 12 patients (5.6%) came back after undergoing other forms of treatment. In 29 cases (13.5% p = 0.044), denial of the diagnosis prompted patients to seek repeat testing. A smaller proportion, 1 patient (0.5%), believed their illness was mystical. Other motivations include the fact that after taking ARVs for long, the clients felt well (15 cases, 7% p = 0.044) and unofficial transfers between healthcare facilities (2 cases, 0.9 % p = 0.044).

Table 4. Patient Motivations for Repeat Testing

	Frequency	**Percentage (%)**
After traditional treatment	30	14
After healing prayers	27	12.6
After other treatments	12	5.6
Others	6	2.8
DENIAL of diagnosis	29	13.5
My illness is mystical	1	0.5
To CONFIRM the test	87	40.5
I feel well / heal	15	7
Unofficial transfer	2	0.9
I feel sick	6	2.8
Total	215	100

Analysis of Factors Associations with Retesting

Some factors were found to be significantly associated with HIV retesting. In the univariate analysis, sex workers showed an increased probability of retesting (Crude OR = 4.63; 95%CI: 1.59-13.54; p = 0.005). Similarly, public employees were more likely to retest (Crude OR = 2.43; 95%CI: 1.21-4.89; p = 0.012.

Regarding age at first sexual intercourse, individuals who had their first sexual encounter between 15 and 19 years showed a lower probability of retesting compared to those who started before 15 (Crude OR = 0.41; 95%CI: 0.21-0.81; p = 0.010; Adjusted OR = 0.23; 95%CI: 0.09-0.58; p = 0.002). A similar reduction is observed for those who started after 20 years (Crude OR = 0.39; 95%CI: 0.21-0.74; p = 0.004.

Frequent testers showed a higher probability of retesting; participants who tested for HIV between 7 and 12 months before the study had a significantly higher likelihood of retesting (Crude OR = 4.26; 95%CI: 2.36-7.70; p < 0.001; Adjusted OR = 6.15; 95%CI: 2.62-14.43; p < 0.001). This association is also seen among participants who tested between 3 and 6 months before the study (Crude OR = 1.83; 95%CI: 1.16-2.87; p = 0.009; Adjusted OR = 2.06; 95%CI: 1.14-3.74; p = 0.017).

Regarding partner status, individuals with an HIV-positive partner were much more likely to retest (Crude OR = 4.77; 95%CI: 1.78-12.74; p = 0.002; Adjusted OR = 9.65; 95%CI: 1.91-48.78; p = 0.006). Additionally, refusal to disclose partner status also increased this probability (Crude OR = 10.0; 95%CI: 2.05-48.89; p = 0.004; Adjusted OR = 12.48; 95%CI: 1.48-105.21; p = 0.020).

Several factors did not show a statistically significant association with HIV retesting in both univariate and multivariate analyses. For example, gender, marital status, pregnancy, breastfeeding, incarceration history and health facility entry points lacked statistical

significance for retesting probability. See Table 5.

Table 5. Analysis of Associations in Clinical Characteristics of Participants and Retesting

Variable	Modality	New cases	Known Cases	Unadjusted Analysis		Adjusted Analysis	
		n (%)	n (%)	Crude OR [95% CI]	p-value	Adjusted OR [95% CI]	p-value
What's your gender?	Male	127(43.2)	82(38.1)	1			
	Female	167(56.8)	133(61.9)	1.23[0.86-1.77]	0.252	-	-
What type of work/occupation do you do most of the time?	Farmer / Agricultural Worker	96(32.7)	58(27)	1			
	Merchant	**39(13.3)**	**44(20.5)**	**1.87[1.09-3.21]**	**0.024**	**1.24[0.62-2.48]**	**0.537**
	Teacher	2(0.7)	0(0)	-	0.999	-	0.999
	Student	26(8.8)	14(6.5)	0.89[0.43-1.84]	0.756	1.06[0.39-2.87]	0.903
	Public Employee	17(5.8)	25(11.6)	2.43[1.21-4.89]	**0.012**	2.32[0.97-5.53]	0.057
	Informal Sector	72(24.5)	34(15.8)	0.78[0.46-1.32]	0.355	0.64[0.33-1.26]	0.198
	Sex worker	**5(1.7)**	**14(6.5)**	**4.63[1.59-13.54]**	**0.005**	**13.14[3.20-53.88]**	**<0.001**
	Domestic Worker	37(12.6)	26(12.1)	1.16[0.64-2.12]	0.621	1.187[0.55-2.55]	0.661
What is your current marital status?	Single	113(38.4)	56(26)	1			
	Cohabitation	**29(9.9)**	**25(11.6)**	**0.46[0.25-0.85]**	**0.014**	**1.07[0.47-2.40]**	**0.872**
	Married	104(35.4)	91(42.3)	0.80[0.38-1.69]	0.565	1.51[0.83-2.73]	0.175
	Separated	21(7.1)	14(6.5)	0.81[0.45-1.48]	0.499	1.08[0.40-2.91]	0.873
	Widowed	27(9.2)	29(13.5)	0.62[0.26-1.46]	0.275	1.97[0.79-4.98]	0.153
How old were you when you had your first sexual intercourse? (in years)	< 15	20(6.8)	30(14)	1			
	> 20	**76(25.9)**	**47(21.9)**	**0.39[0.21-0.74]**	**0.004**	**0.20[0.09-0.45]**	**<0.001**
	15-19	**156(53.1)**	**93(43.3)**	**0.41[0.21-0.81]**	**0.010**	**0.24[0.10-0.58]**	**0.002**
	N/A	8(2.7)	2(0.9)	0.84[0.41-1.74]	0.644	0.63[0.25-1.61]	0.339
	Don't know	34(11.6)	43(20)	0.17[0.03-0.87]	**0.033**	0.18[0.01-2.26]	0.185
In the past 12 months, have you exchanged money/items for sex?	No	273(92.9)	193(89.8)	1			
	Yes	21(7.1)	22(10.2)	1.48[0.79-2.77]	0.218		
Have you ever had or do you have tattoos on your body?	No	269(91.5)	173(80.5)	1			
	Yes	**25(8.5)**	**42(19.5)**	**2.61[1.54-4.44]**	**<0.001**	**5.05[2.42-10.54]**	**<0.001**
	< 3 months	134(45.6)	55(25.6)	1			

When was your last HIV test?	**12 months**	**30(10.2)**	**52(24.2)**	**4.22[2.44-7.31]**	**<0.001**	**9.13[4.47-18.65]**	**<0.001**
	3 - 6 months	**84(28.6)**	**63(29.3)**	**1.83[1.16-2.87]**	**0.009**	**2.20[1.23-3.92]**	**0.008**
	7 - 12 months	**24(8.2)**	**42(19.5)**	**4.26[2.36-7.70]**	**<0.001**	**8.12[3.57-18.48]**	**<0.001**
	Never tested	22(7.5)	3(1.4)	0.33[0.09-1.15]	0.083	0.60[0.14-2.56]	0.490
What is the HIV status of your spouse/primary sexual partner?	N/A	18(6.1)	6(2.8)	1			
	Don't know	151(51.4)	84(39.1)	1.67[0.64-4.37]	0.297	1.83[0.39-8.67]	0.442
	Refused to answer	**3(1)**	**10(4.7)**	**10,0[2.05-48.89]**	**0.004**	**8.11[0.99-66.19]**	**0.049**
	HIV Negative	66(22.4)	26(12.1)	1.18[0.42-3.31]	0.750	1.53[0.30-7.74]	0.605
	HIV Positive	**56(19)**	**89(41.4)**	**4.77[1.78-12.74]**	**0.002**	**7.69[1.57-37.61]**	**0.012**

ART Engagement and Reengagement Rates

We stratified the participants who tested HIV positive into 3 groups; Group I participants who newly tested HIV positive for the first time were aware of their status n = 294, Group II participants who knew HIV positive who had never initiated ART n = 42 and Group III participants known HIV positive who had previously started ART n = 173. This study found a linkage to HIV treatment rate in Group I participants newly tested HIV positive at **97.62%.** The engagement rate of Group II participants previously diagnosed but never started treatment who were finally put on ART was **85.71%.** The rate of reengagement in care among Group III participants who had previously been on ART was **97.10%.** See Table 6.

Table 6. Showing Treatment Initiation, Engagement and Reengagement in Care Among Study Participants

Have you tested positive in the past?			
	Total	**Started treatment**	**percentage**
Newly diagnosed	294	287	97.62%
Known cases who never started ART	42	**36**	85.71%
Known cases previously on ART	173	**168**	97.10%
total known cases	215	**206**	95.81%

Perceptions of Health Care Providers on Retesting in Previously Diagnosed PLHIV

Focus group discussions with healthcare providers brought out key insights on retesting summarized below

Mistrust about Medication

Healthcare professionals reported that some patients lack trust in the effectiveness of antiretroviral therapy (ART) and other prescribed treatments, which drives them to seek additional testing. An APS from the

Presbyterian Hospital Acha explained: "They do not trust the medications they are taking" (APS, 30 years old, 3 years of experience).

Mistrust in Test Results

Many healthcare providers brought to light the fact that patients return for retesting due to doubts about the accuracy of their HIV diagnosis. A nurse from the Regional Hospital Bafoussam noted: "Some patients come back to get tested again because they doubt their previous results, thinking there might have been a mix-up" (Nurse, 38 years old, 5 years of experience).

External Influences

Healthcare personnel frequently mentioned traditional medicine and religious beliefs. A participant from the Presbyterian Hospital Acha reported, "Many patients listen to traditional healers (marabouts) or religious leaders (pastors, prophets, apostles and priests) who claim they can cure HIV, which drives them to come back to check their status" (APS, 27 years old, 4 years of experience).

Multiple Enrollments to Accumulate ARVs

Healthcare professionals have identified a growing issue where patients enroll in multiple health facilities to stockpile antiretroviral (ARV) medications. A Nurse at CMA Lafe-Baleng added: "Some patients tell us they enroll in multiple facilities to prepare for potential stockouts, especially when they don't have access to multi-month dispensation".

Discussion

Our study found that the rate of retesting is high at 42.24%. This finding is in line with an article that examined HIV diagnosis and treatment trends in 2020 estimated that up to 58% of positives were previously diagnosed with PLHIV [8]. In a recent study in Lesotho, a fifth of PLHIV reported retesting [9]. Estimates of retesting in other studies from Uganda at a facility-based survey showed 37% of people retesting [10]. Eswatini showed a retesting rate among PLHIV of 32.8% [5]. In South Africa in HIV clinics in 2022, an estimated 33.8% of PLHIV had retested [11]. These variations in retesting rates ranging between 20 to 60% around the World show that retesting is context specific, yet high.

Our results show that about 40% of people testing HIV positive are retesters. This means facility-based estimates of people who know their HIV status could be biased by retesters. This therefore means that retesting among previously diagnosed PLHIV must be factored into several positives for estimation of PLHIV who know their status (first 95%) and setting of testing targets.

Our analysis shows that the HIV positivity rate decreases significantly, from 2.44% to 1.43%, when retesters are excluded from the count of clients testing HIV-positive. This suggests that positivity rates—commonly used to assess testing yield—are often overestimated and biased due to the inclusion of retesters. This positivity rate is in line with a recent study conducted in Kenya where in a retrospective analysis of routine PITC program data, the positivity dropped from 2% reported in programmatic data to 1.2% [12]. In 2017, a study explored the implications of repeat HIV testing on positivity rates in sub-Saharan Africa and argued that including repeat testers can inflate positivity rates and create a misleading picture of the HIV epidemic [13].

As seen above, previous studies have highlighted the overestimation of HIV positivity rates due to the inclusion of repeat testers in data. Excluding repeat testers typically leads to a noticeable decrease in reported positivity rates, ranging from as much as 20 to 30%. This overestimation can distort the understanding of actual HIV prevalence and mislead public health policy, especially regarding testing and treatment targets. HIV programs need to adjust for repeat testers in prevalence surveys and testing programs when calculating positivity.

The analysis of patient motivations for

retesting revealed various reasons. The most common reason cited by the patients was the need to confirm the test results (40.5%). After receiving traditional treatment (14%), some patients returned for repeat testing, while others did so following healing prayers (12.6%). Alternative forms of treatment, denial of the diagnosis, the need to stockpile medications through multiple initiations and the belief that their illness was mystical were some of the factors that prompted patients to seek repeat testing. This highlights cultural, belief systems, psychological and social barriers to accepting their status. In total, these responses reflect a diverse range of factors influencing patient behaviour, with confirmation of results, alternative treatments and denial being particularly prominent among the 215 registers (respondents).

Some factors were found to be significantly associated with HIV retesting. Sex workers and public employees showed an increased probability of retesting. This may probably correspond to their high mobility. Frequent testers within 3 to 6 months showed a significantly higher likelihood of retesting (OR = 6.15; 95%CI). Regarding partner status, individuals with an HIV-positive partner and clients who failed to disclose their HIV status to partners also had an increased probability of retesting. This is consistent with other studies that found non-disclosure of HIV status as a factor in retesting and or treatment interruption in Cameroon in 2017 [14], 2019 [15], Kenya in 2018 [16] and Nigeria in 2018 [17] and 2020 [18].

Mistrust of HIV status may find its prelude in misdiagnosis. In a study conducted in the North-West and South-West Regions of Cameroon, HIV-positive clients on routine care were retested for HIV and found a misdiagnosis rate of 0.5%, showing negative or discordant results [19]. Similarly, findings from two studies conducted in China showed concerning levels of misdiagnosis [20, 21]. Misdiagnosis has been extensively studied in many countries with a strong recommendation that HIV testing programs must respect the World Health Organization's recommendation of retesting all newly diagnosed HIV cases for verification of results before antiretroviral therapy (ART) initiation. [22-27].

Another study conducted in Eswatini showed that most (61.9%) of participants who retested did this because they could not accept their results [5]. Denial of HIV status as a factor for retesting has been demonstrated in other studies like that of Horter et al. 2020 in Swaziland, Meka et al 2020 in Cameroon and Giguère et al. 2021 in Sub-Saharan Africa [28, 29, 30]. Some writers have called status denial and repeated testing “delusional disorders” [31].

From the above discussion, many studies have highlighted the denial of HIV status and the need to confirm HIV test results as reasons for retesting in many Countries.

This study, however, brings to light factors such as taking traditional or alternative treatment and religious healing after prayers as reasons for retesting. This highlights the coexistence of medical treatment with belief systems, which can have a positive or negative impact on health. With the proliferation of healing Ministries, especially in Africa, with some religious leaders declaring HIV patients healed from HIV, retesting rates may continue to be high. This calls for enhanced collaboration with religious and traditional authorities in the fight against HIV/AIDS.

Study Limitation

The study was conducted in 15 high-volume health facilities in the West region, which represent 72% of HIV positive cases identified in Quarter 1 of the 2024 Fiscal Year. The sample size was statistically significant. Given the diversity in HIV epidemiologic profile, nearness to epidemic control and varying gaps across the HIV cascade in the 10 Regions, it would have been best to conduct the study in all 10 Regions to increase the generalizability of

findings. However, the findings of this study remain key and relevant, provide very vital data points on the rate of retesting in previously diagnosed PLHIV and provide informed tailored solutions.

Conclusion

We found that the rate of retesting is high and biases the number of new HIV diagnoses reported yearly. The findings underscore the importance of biometric unique identifiers in the care of HIV patients to eliminate repeat testing and enhance retention in care. The findings of this study underscore the complexity of HIV care, particularly in regions where traditional, religious beliefs and modern medical practices coexist. To improve HIV treatment outcomes and reduce unnecessary retesting, it is essential to address patient mistrust in HIV test results and ART, provide culturally sensitive care, and enhance coordination between healthcare facilities. The study emphasizes the importance of integrated approaches to reduce the occurrence of retesting, optimize resource use, and improve retention and the overall quality of care for people living with HIV.

Suggestions for Future Research

At the end of this study, the following research axes are proposed:

1. How can biometric unique identifiers be scaled up to mitigate repeat testing?
2. What is the health care cost associated with retesting on the HIV programs in terms of test kits, personnel time, laboratory commodities and other cost categories?
3. Explore the effectiveness of integrated interventions that involve both medical professionals and community leaders in bridging the gap between modern and traditional health systems.

Recommendations

1. Adopt a National biometric unique identifier system for HIV-positive patients as part of universal health coverage.
2. While waiting for the unique identification system to be functional, train health care providers and elaborate standard operating procedures (SOPs) on the identification and re-engagement of PLHIV who come for repeat testing, enhanced counselling and ongoing patient education.
3. Strong collaboration with traditional healers and religious leaders on the HIV program to coordinate their contributions to HIV prevention, testing and treatment.
4. HIV programs to factor retesting in PLHIV estimates and target setting.

Conflict of Interest

The authors have declared no conflict of interest.

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