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HIV Knowledge and Service Delivery Practices Among Community Pharmacy Providers in Lafia, Nasarawa State

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ABSTRACT

Background: Community pharmacists continue to serve as informal entry points for Human Immunodeficiency Virus (HIV) services in Nigeria. They help in the prevention and control of Acquired Immunodeficiency Syndrome. In addition, due to the trust and confidentiality in this category of health care workers, access to continuum of care is easier by members of the communities where the community pharmacists reside in.

Objective: To evaluate HIV related knowledge and service delivery practices among community pharmacy providers in Lafia, Nasarawa State. Factors associated with knowledge and practice related to HIV services will also be assessed.

Methods: A descriptive cross-sectional study was conducted among licensed community pharmacists in Lafia using total population sampling (n = 23). Data were collected using structured self-administered questionnaires assessing socio-demographic variables, HIV knowledge, and service delivery practices. Descriptive statistics (frequencies and percentages) and inferential analysis (Fisher's exact test) were performed using SPSS IBM version 26. Knowledge and practice levels were categorized into "good" and "poor" based on composite scores.

Results: The mean age of respondents was 40 + 9.49 years, with a high proportion of sex being male (73.9%) and married (78.3%). Most respondents had good HIV knowledge (95.7%), with high awareness of transmission routes, prevention strategies, and treatment effectiveness. Misconceptions regarding mosquito transmission and cure were absent. However, only 73.9% showed good service delivery practices. While nearly all respondents reported providing services to HIV clients (100%), referral practices (95.7%), and maintaining confidentiality (95.7%), few respondents reported routine counselling (60.9%) and Antiretroviral Therapy (ART) dispensing (43.5%). No statistically significant associations were found between knowledge and factors such as training, years of practice, qualification, or access to guidelines of HIV ($p > 0.05$).

Conclusion: While community pharmacy providers in Lafia showed high levels of HIV knowledge, gaps still exist in translating HIV knowledge into optimal service delivery practices, particularly in the area of routine counseling and ART dispensing. This differences highlights the influence of structural and system-level barriers which are beyond individual competence alone. Strengthening the formal integration of community pharmacies into HIV care frameworks,

alongside targeted training and supportive supervision, may enhance their contribution to a decentralized system of HIV service delivery.

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INTRODUCTION

The Human immunodeficiency virus (HIV) infection is among the key global trend of disease of public health importance (WHO,2026). Sub-Saharan Africa constitute Two third of global HIV cases with approximately 1.3 million new infection recorded in 2024 (UNAIDS,2026). Despite efforts in Provision of antiretroviral therapy (ART), there has been noted gaps in testing , drug adherence and ensuring continuum of care (Magura, Nhari, Nzimakwe, 2025; Tesoriero et al, 2025). The health system of the country faces a lot of challenges ranging from shortage in workforce and other significant aspects to which programs that are facility based face a lot of bottle necks necessitating establishment of decentralized system to suit this gap (Oleribe et al,2019; Abimbola,2019). Community pharmacy has always been at the doorstep with the populace as it enhances confidentiality perceived by the populace and accessibility to care or services offered , It also serves as an informal point of entry for health services not excluding HIV related services (Hindi, Schafheutle andhindi Jacobs, 2017).

The role of community pharmacists in the provision of care for HIV clients has not been formally defined (HIV blog, 2026; Kherghehpoush and McKeirnan, 2023), though some studies have shown adequate level of knowledge of HIV among community pharmacists (Pineda et al, 2015). There exists critical gaps that has remained persistent in areas like preventive strategies, misconceptions, myths about transmission of HIV, Timelines for treatment. Despite existence of Standard guidelines , HIV services offered at the Pharmacy are still delivered even though intergrated into the national program (Cawley, 2017) .

Most available existing literatures are significantly focused on assessment of knowledge or availability of HIV related services with little assessment of factors that have significant effect on practice. Additionally, the relationship between knowledge of HIV and various service delivery remains unevaluated in Lafia, Nasarawa State. This study will address the gaps by assessing HIV knowledge and various practices among community pharmacist offering HIV services.

General Objective: To assess knowledge and service delivery practices to HIV among community pharmacy providers in Lafia, Nasarawa State.

Specific Objectives:

To define the level of HIV-related knowledge among community pharmacy providers

To assess HIV-related service delivery practices

To identify factors associated with good HIV knowledge

To analyze the association between HIV knowledge and service delivery practices

METHODOLOGY

Study Area

The study was conducted in Lafia, Lafia Local Government Area, which is the capital city of Nasarawa State, Nigeria, with 13 political wards comprising Agyaragun Tofa, Arikya, Ashigie, Assakio, Bakin Rijiya/akurba/sarkin Pada, Chiroma, Gayam, Keffin/wambai, Makama, Shabu/kwandere and Wakwa. Lafia has an estimated population of 550,000 with males 276,100 and females 273,900 based on the data provided by the National Population Commission (NPC), Lafia office. It is a growing urban centre with multiple community pharmacies serving a population that includes both urban and semi-urban residents.

Study Design

A cross-sectional descriptive study

Study Population

The study population consisted of community pharmacists practising within Lafia metropolis. The local government has 26 community pharmacists; 23 males and 3 females having updated licenses which serves as the sampling frame.

Sample Size

A list of licensed community pharmacies in Lafia was obtained from the Pharmacists Council of Nigeria (PCN) Lafia chapter. A total of 26 registered Community Pharmacists were given semi-structured questionnaires to fill.

Sampling Technique

A total sampling technique was used through structured questionnaires to assess knowledge, practices among all Community Pharmacists in 13 Lafia political wards comprising Agyaragun Tofa, Arikya, Ashigie, Assakio, Bakin Rijiya/akurba/sarkin Pada, Chiroma, Gayam, Keffin/wambai, Makama, Shabu/kwandere and Wakwa.

Inclusion Criteria

- Up-to-date practising license, pharmacists currently practising in community pharmacies in Lafia.
- Pharmacists who have been in practice for at least 6 months.
- Pharmacists who consent to participate

Exclusion Criteria

- Pharmacy technicians or attendants not fully licensed as pharmacists.
- Pharmacists working in hospital or industrial settings.
- Pharmacists on leave or unavailable during the study period.

Data Collection Methods and Tools

A cross-sectional survey using structured questionnaires to assess knowledge and practices. The tool utilised for this was self-administered questionnaires covering socio-demographics, knowledge of HIV, and reported practices towards HIV infected clients.

Data Analysis

The data was entered into SPSS and analysed using descriptive (frequencies and percentages) and inferential statistics (logistic regression) to find, if any, associations between knowledge, practices, and demographic variables.

RESULTS

Table 1: ***Socio Demographic Characteristics of Respondents***

Variable	Frequency(n)	Percentage (%)
Age Mean ± SD	40±9.49	
25-34 years	08.00	34.80
35-44 years	08.00	34.80
45-64 years	07.00	30.40
Sex		
Male	17.00	73.90
Female	06.00	26.10
Marital Status		
Married	18.00	78.30
Single	05.00	21.70
Years of Practice		
≤ 10 years	16.00	69.60
>10years	07.00	30.40
Qualification		
Basic (B. Pharm)	21.00	91.30
Advanced ((M.Pharm/PharmD)	02.00	08.70

Table 2: ***Knowledge of HIV among Community Pharmacy Providers in Lafia , Nasarawa State***

Variable	Yes Frequency(%)	No Frequency(%)
Transmission through unprotected sex	22(95.70)	01(04.30)
Sharing needles	20(87.00)	03(13.00)
Mosquito transmission	00(00.00)	23(100.00)
PrEP knowledge	21(91.30)	02(08.70)
PEP duration (28 days)	20(87.00)	03(13.00)
Effectiveness of ART	22(95.70)	01(04.30)
Misconception about cure	00(00.00)	23(100.00)

Table 3: ***Knowledge Level Distribution for HIV among Community Pharmacy Providers in Lafia , Nasarawa State***

Variable	Frequency	Percentage
Good	22.00	95.70
Poor	01.00	04.30

Table 4: ***HIV Service Delivery Practices of Community Pharmacy Providers in Lafia , Nasarawa State***

Variable	Yes Frequency (%)	No Frequency (%)
Provide counselling	14(60.90)	09(39.10)
Provide services to HIV clients	23(100.00)	00(00.00)
Dispense ART	10(43.50)	13(56.50)
Refer patients	22(95.70)	01(04.30)
Ensure confidentiality of clients	22(95.70)	01(04.30)
Ever refused service	01(04.30)	22(95.70)

Table 5: ***Practice Level Distribution for HIV among Community Pharmacy Providers in Lafia , Nasarawa State***

Variable	Frequency	Percentage
Good	17.00	73.90
Poor	06.00	26.10

Table 6: ***Factors Associated with Knowledge HIV among Community Pharmacy Providers in Lafia , Nasarawa***

Variable	Good knowledge	Poor knowledge	Fishers exact (p-value)
Training			-
Yes	22(95.70)	01(04.30)	
No	00(00.00)	00(00.00)	
Years of practice			0.46(1)
≤10years	15(93.80)	01(06.30)	
>10years	07(100.00)	00(00.00)	
Qualification			10.98(0.087)
Basic	21(100.00)	0(00.00)	
Advanced	01(50.00)	01(50.00)	
Access to guidelines			0.497(0.174)
Yes	19(100.00)	00(00.00)	
No	03(75.00)	01(25.00)	

Note. p <0 .05 is considered the significant level. Fisher's Exact test as expected cell counts were less than 5.

There was no statistically significant association between the factors (training, years of practice, qualification, and access to guidelines) with knowledge of HIV among community pharmacy providers (all p-values were > 0.05).

Multivariate analysis through Logistic regression was not performed as a result of small sample size.

DISCUSSION

Findings revealed high level of knowledge among community pharmacists (95.7%) which aligns with similar studies carried out on community pharmacists in similar setting to which exposure to programs and extensive training has influenced their behavior of identifying transmission routes, prevention strategies and having effective treatment (Okoye *et al*,2025; Govinder, 2011).

HIV education has been recognized with biomedical facts such as the correct duration of Post Exposure Prophylaxis(PEP) and the role of antiretroviral therapy (ART) in the management of HIV. A high contrast in the level of knowledge associated with misconceptions (through mosquito bites or through casual contacts which are known non-transmission routes (Seid *et al*,2020)), was reported across sub-Saharan Africa. The absence of these misconceptions in this study reveals the effort on training and exposure of the community pharmacists in Lafia. However, the observed near ceiling effect in this study, indicated limited variability

in the level of knowledge as statistically insignificant associations was seen with the explanatory variables, which could be accounted to the small sample size of the study.

There is a discrepancy between the level of knowledge and practice of HIV services in Lafia. A high knowledge was revealed, but only 73.90 percent of respondents showed good practice levels. These findings are consistent with previous studies which suggest that a drive for an optimal healthcare behavior, knowledge alone is not sufficient (Saad *et al*,2025). Less than half of the respondents reported providing services to HIV clients through dispensing and about 39.10% did not provide routine counselling. This gap illustrates the structural and systemic barriers to effective services rather than individual competence alone.

The predictors such as training, years of practice, qualification, and access to guidelines may not fully explain knowledge of HIV among community pharmacists in this study as there was no statistical significance. The findings differ from previous studies where formal training and professional experience were significant determinants of knowledge. Previous studies with the same homogeneity of study population (educational background and exposure levels limits) showed detectable difference (Omenoba et al,2025). Having access to guidelines did not translate into better knowledge and practice level among community pharmacists which reflects that having access to necessary resources does not guarantee its utilization.

A high proportion of respondents showed a high rate of referral (95.70%), and confidentiality practices among community pharmacists, which are critical to ensure HIV care continuum. Lower levels in routine counselling and ART dispensing were observed. This translates to missed opportunities for the strengthening the decentralized model in offering HIV care. Findings showed the need to move beyond recognition of community pharmacist as access points but as structures for integration for a successful national HIV interventions or programs.

The findings showed that the community pharmacists are underutilized and not adequately integrated into the formal HIV service as expected in the National frameworks. For policy and health system strengthening, and support for task shifting, community pharmacists need to be utilized fully because the observed practices show they are already informally engaged in HIV care but without structural guidance. Formal integration will strengthen referral frameworks and serve as a significant component for continuum of care. Therefore, policy efforts should focus not only on expanding roles for the community pharmacists but also ensure quality assurance mechanisms especially supportive supervision.

The small sample size (n = 23) significantly limited the statistical power of the analysis and restricted the generalizability of the findings making it difficult to identify meaningful associations for the predictors. There is a need to use large sample size and a mixed study to capture various aspects of HIV service delivery regarding community pharmacists and adopt adequate strategies to address the structural and behavioral determinants of practice.

CONCLUSION

This study revealed the evolving role of community pharmacies and community pharmacists in HIV care within the Nigerian context with a focus on Lafia, Nasarawa State. While the findings showed a remarkably high knowledge among the respondents, these did not fully translate into the routine, consistent and comprehensive service delivery practices they offer. There was an observed gap between knowledge and practice revealing that to optimize HIV care delivery at the community level, we must move beyond individual competence. Apart from addressing the systemic and structural barriers that affect effective HIV practices, further qualitative research to fully understand the behavior and practices of community pharmacists is needed.

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