Texila International Journal | Open Access | Peer Reviewed

Journal: Texila International Journal of Academic Research
https://doi.org/10.21522/TIJAR.2014.13.03.Art016

ISSN: 2520-3088
Volume 13 Issue 3, 2026

Effectiveness of Community-based Distribution Methods of HIV Self-Test Kits among Female Sex Workers (FSWs) in Lagos State, Nigeria

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Cite this article as: John-Dada I, Tobin-West C, Dadi AN. Effectiveness of community-based distribution methods of HIV self-test kits among female sex workers (FSWs) in Lagos State, Nigeria. Texila Int J Acad Res. 2026;13(3). **https://doi.org/10.21522/TIJAR.2014.13.03.Art016**

Received: 30.04.2026
Accepted: 04.06.2026
Published: 31.07.2026

Abstract *Community-based distribution method of HIV self–test kits is one of the distribution methods for HIV self-test uptake among Female Sex Workers (FSWs) in Nigeria. Yet it seems that understanding of its effectiveness and uptake has been on the margins among key populations (KPs) such as FSWs. To fill this gap, a cross-sectional comparative design with 375 FSWs, comprising 143 urban and 232 semi-urban residents in Lagos State, was measured and compared between the two groups to ascertain the effectiveness of the community-based distribution method of HV Self Testing (HIVST) uptake and how it could promote and sustain a long-term health care system in the context of HIVST uptake. Data for this study were collected using a structured questionnaire and analyzed using SPSS. The key finding showed that overall, 86% of both urban and semi-urban participants affirmed the effectiveness of community-based distribution methods of HIVST. The main reasons included non-stigmatization, lack of discrimination, regard for FSWs, confidentiality, and cost-effective uptake. Statistical analysis revealed significant differences between community-based and other distribution models ($p < 0.05$). However, minimal awareness of community-based distribution was identified. In the alternative, the study shows that intervention to redress this challenge can promote and sustain the effectiveness of community-based HIVST distribution, contribute valuable information to the field of HIV prevention and care, offer insights that can inform targeted approaches to enhance HIV testing uptake, meet the health needs of FSWs living with HIV, thereby mitigating the spread of the disease and contributing to improved health conditions.*

Keywords *Community-based Distribution, Female Sex Workers (FSWs), HIV Control, HIV Self-Testing, Nigeria, Sustainable Health.*

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https://doi.org/10.21522/TIJAR.2014.13.03.Art016

Introduction

The complex effects of HIV in the developing regions of the world such as Africa have made the study of HIV self-testing increasingly important. Globally, in 2024, about three-quarters of the 40.8 million [37.0 million–45.6 million] people living with HIV were receiving antiretroviral therapy (77% [62–90%]) and (73% [66–82%]) had suppressed viral loads—a huge public health achievement [1].

In sub-Saharan Africa (SSA), which is home to more than 60% of all people living with HIV, the provision of antiretroviral therapy, among other advances, has led to a rebound in life expectancy from 56.5 years in 2010 to 62.3 years in 2024 [1].

Despite recent progress, the prevalence of HIV in sub-Saharan Africa (SSA) remains high and an issue of urgent policy and research concern. Recent global data show that the HIV response may be in crisis, as a decline in funding poses a new challenge, yet there is power to transform the vulnerable population [1-4].

Importantly, in Africa, Female Sex Workers (FSWs) are among the most vulnerable groups, whose activities contribute to the spread of the epidemic [5]. A recent study shows that FSWs have a higher prevalence rate and exposure to risk at least 12 times higher than women who are not sex workers [6].

For example, across Central and West Africa, in 2019, among 4.9 million persons living with HIV, about 240,000 were newly infected, while 140,000 died of conditions linked to AIDS [7, 8]. Data from the Joint United Nations Programme on HIV/AIDS (UNAIDS) show that of all those living with HIV in Central and West Africa at the end of 2019, only 68% knew their serological status [8]. Nigeria is included in the prevalence of the epidemic and also confronted with the challenges of awareness and knowledge of the status of the epidemic among infected persons through HIVST.

In Nigeria, in 2025, UNAIDS and the National Agency for the Control of AIDS (NACA) estimate that there are 1.9 million people living with HIV in Nigeria [9]. Like most countries in West Africa, the concentration of HIV epidemic among key populations such as female sex workers (FSWs) have been high. Recent World Health Organization data show that among vulnerable groups to new infection are female sex workers (FSWs) [10, 11] as the group has the potential of transmitting the disease to various sexual partners. However, with effective HIVST uptake, over 85% of the vulnerable group will not transmit or spread HIV [8].

A 2025 survey in Lagos found an increasing rate of new HIV infection, including FSWs [12]. FSWs face a significant and persistent risk of contracting HIV. FSWs account for about 20% of new HIV infections in Nigeria. Undiagnosed HIV infection remains substantial in key population subgroups, including FSWs,9, driving ongoing transmission in sub-Saharan Africa.

Self-testing is a new way for people to learn their HIV status and, if confirmed HIV-positive, obtain treatment and prevention services [13, 14]. HIV self-testing is becoming much more widely available. Various programmes are emerging in a number of countries. As of July 2018, more than 40 countries report having policies to allow self-testing, many of which are now implementing self-testing programmes to some degree [15]. Recent 2025 data on HIVST suggest the increasing relevance of self-testing [1, 6, 7].

There are various distribution models for HIV self -testing such as vending, pharmacies, distribution by peers, community-based distribution, pick-up from a store, mail delivery, online ordering, and facility-based distribution. Self-testing can provide more flexibility for clients and health care service providers [9].

Distribution during campaigns, at events, mobile outreach, or home-based (door-to-door)

distribution. Integration with existing community-based testing programmes can improve efficiency and optimize resources. Thus, the effectiveness of community-based HIV Self-testing among female sex workers (FSWs) has attracted recent scholarly attention following the persistent rise of HIV infection, particularly the rise of new infections [16-18]. Community-led models are likely to be effective. For example, a recent study found that community-based HIVST is cheap and affordable [17]. Similarly, WHO elaborates that communities are important to make HIV self-testing safe, acceptable, and effective [9]. Community organizations can significantly shape norms to support self-testing and its appropriate use. In a cluster randomized trial in Malawi, a study demonstrated that community-led HIVST was effective, safe, and affordable. [19].

However, despite the growing concern about the effectiveness of HIVST uptake, it appears that a comparative study of the effectiveness of community-based distribution methods of HIV Self-testing among FSWs has been in the margins of research in most developing countries. For example, there is a dearth of research on community-based HIVST among key populations in most urban and semi-urban localities in the low-income countries of Africa. Particularly, there is limited evidence of perceptions and reasons for the effectiveness of community-based distribution methods of HIV Self –testing among FSWs in Nigeria in particular.

The study of Nigeria is important not only because it is the most populous country in Africa but it is essential to identify some of the key enablers that are responsible for the effectiveness of community-based HIVST distribution, and in particular, to promote the treatment and prevention of the spread of HIV among FSWs against stigmatization [20-22]. Such testing and knowledge of status, according to [6] are starting points for HIV treatment and prevention interventions.

It is against the background of scant research in this subfield that this study aims to fill this research gap by exploring the effectiveness of community -based distribution methods of HIVST kits in Lagos State, Nigeria. The study compared three HIVST kits distribution methods, namely, community-based, online, and pharmacy-based, drawing on responses from FSWs to understand their lived experience on issues of confidentiality, stigmatization, affordability, discrimination, and inclusiveness.

The contribution of this study is threefold. First, the study offers a deepened comparative analyses that draw on lived experience of FSWs in urban and semi-urban settings in Lagos State to understand their perceptions and preferences among three types of HIVST distribution methods, Secondly, such knowledge helps health care practitioners and policy makers to promote the mitigation of the spread of HIV and thirdly creates new awareness on the need for community based distribution method of HIVST and its divergent importance in promoting good health and wellbeing of key populations in line with UNAIDS agenda and the SDG goals.

Aim of the Study

To ascertain the effectiveness of community-based distribution methods of HIV self-test kits among Female Sex Workers in Lagos state, Nigeria.

Objectives

1. To ascertain the extent to which the community-based distribution method of HIVST kits is more confidential than online and pharmacy distribution methods among FSWs.
2. To determine the extent to which community-based distribution methods of HIVST kits are less stigmatizing than online and pharmacy-based distribution methods among FSWs.

3. To examine the extent of community-based distribution method of HIVST kits, mitigate discrimination among FSWs.

Significance of the Study

This study will generate evidence on the most effective community-based approaches for distributing HIV self-test kits to Female Sex Workers (FSWs), a key population at increased risk of HIV infection in Lagos State and across Nigeria. The findings help improve early HIV diagnosis among FSWs by identifying the HIVST distribution methods that are more acceptable, confidential, convenient, and accessible to this population.

Materials and Methods

Study Design

This study adopted a cross-sectional qualitative design conducted in Lagos State, Nigeria and examined 13 FSWs communities. The study explored the effectiveness of community-based distribution approaches for HIV self-testing (HIVST) kits in enhancing uptake among this population.

The study used simple random sampling technique to collect field data among participants. The research relies on extensive qualitative data collected from FSWs in the study sites. Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) were conducted. Data was presented in tables and analyzed statistically using simple regression.

Research Question

1. To what extent is the community-based distribution method of HIVST kit more confidential than online and pharmacy-based distribution methods of HIVST kits among FSWs?
2. To what extent is the community-based distribution method of HIVST kits less stigmatizing than online and pharmacy-based uptakes among FSWs?
3. To what extent does the community-based distribution method of HIVST, mitigate discrimination among FSWs

Research Hypotheses

- **H_1** Community-based distribution method of HIVST kits uptake is more confidential than online and pharmacy-based distribution methods of HIVST kits among FSWs.
- **H_2** Community-based distribution method of HIVST kits is less stigmatizing than Online and Pharmacy uptake among FSWs.
- **H_3** Community-based distribution method of HIVST mitigates discrimination among FSWs.

Study Area

This study was conducted in Lagos State, Nigeria. The specific sites of this study included randomly selected urban and semi-urban areas in Lagos State. Studies have shown that FSWs predominantly reside in urban centers (cities) and semi-urban areas adjoining urban localities [23].

Population and Sample Size

The population for the study consists of 375 FSWs aged 18-45 years who have accessed services from OSS treatment facilities. FSWs who have self-tested within the last three years were chosen using a multistage sampling technique. In order to ensure homogeneity within each cluster, the FSWs were first grouped using cluster sampling. Purposive sampling was used in the second phase to choose FSWs who fall into the designated demographic range.

Furthermore, proportionate sampling was used to guarantee representation from the studied sites.

The Taro Yamane formula was adopted to determine the sample size below;

$$n = \frac{N}{1 + N(e)2}$$

Where: N is the population (44112908)

1 is constant
e is the sampling error
n is the sample size
Adopting substitution method

$$n = \frac{44112908}{1 + 44112908(0.05)^2}$$

$$= \frac{44112908}{1 + 44112908 \times 0.0025}$$

$$= \frac{44112908}{1 + 110282.27}$$

$$= \frac{44112908}{110283.27} = 399.99$$

Sample size (n) = 400

Data Collection Instruments

Structured questionnaires were used in collecting data from the respondents. The instrument was designed in English language, and local dialect as applicable, wherein the questions were cross-checked to verify the context. Trained research assistants administered the questionnaires and also conducted the FGDs. The tool was pretested in Agege CF, and adjustments and necessary corrections were made before going for the field survey.

Approach

From October 2025 to December 2025, community- based distributors (CBDs) in Lagos State in FSWs communities administered questionnaires, organized (5) focus group discussions (FGDs) with FSWs on their perceptions on the effectiveness of community-based distribution methods of HIVST, amongst FSWs in the brothels, local inn and pub houses. Targeted communities under investigation were selected using simple random sampling. The specific urban and semi-urban sites were randomly selected for the study using a random number generator. The study population comprised of FSWs across the selected urban and semi-urban communities. The sampling was used to select 13 FSWs communities from five (5) purposively selected wards in Lagos State and 13 community-based distributors. The study involved a final total sampling of 375 FSWs, who are knowledgeable of HIVST distribution in urban and semi-urban Lagos State between October 2025 to December 2025.

CBDs were identified, which included a network of FSWs recruited and trained from each of their communities to explore the effectiveness of community-based distribution methods of HIV Self-test kits at the community. The selection of a network of FSWs as CBDs was informed by the fact that they have easy access to the FSWs, they are knowledgeable of their various locations, including timing, and there is no discrimination or stigma. Most of the network members have previous experience of working with HIV programmes, community work, literacy levels and good standing in the community. Hence, CBDs were a heterogeneous group with different backgrounds and levels of experience. We undertook a 2-day training on how to administer the questionnaire, providing information to promote and support linkage to elicit perceptions on comparative responses on the effectiveness of community-based distribution, online, and pharmacy uptakes.

Each locality (urban or semi-urban) had the smallest subunit of a ward that varies in size but typically has about 100 households, had one or two CBDs depending on size. Within the period of October 2025 to December 2025, CBDs conducted visits to FSWs in brothels, interacting with them on the effectiveness of community, online, and pharmacy-based distribution methods of HIVST kits. Questionnaire and focus groups were conducted with only FSWs who were willing and gave their consent. Research assistants and CBDs recorded the responses. The primary outcomes were to determine FSWs' perception on the effectiveness of community, online and pharmacy -based distribution methods of HIVST kits. FSWs' perception was accessed across nine items using a 2-point Likert-scale instrument, "Agreed" and "Disagreed", with

'Agreed' assigned a score of "1" and 'Disagreed' "0", while effectiveness of community based HIVST uptake was assessed using a 10-point Likert Scale where "1" was extremely effective and "10" was extremely ineffective. The effectiveness or otherwise were analyzed as primary outcome.

Inclusion and Exclusion Criteria

All FSWs aged 18 to 45 years and who have participated in or knowledgeable of community-based distribution methods of HIVST for at least six months, were selected from the client registers of OSS facilities for this investigation and included, while those that did not meet the inclusion criteria were excluded.

Data Analysis

Data on perceptions of FSWs on the effectiveness of community-based distribution methods of HIVST kits were analyzed using SPSS statistical package. The mean score rating (between ratings 1-10) was used in determining the cut-off for categorizing effectiveness scores. FSWs with effectiveness scores greater or equal to the cut-off were classified as "effective," or otherwise, "ineffective." Adjusting for all variables, t-test was used to test the hypotheses among urban and semi-urban residents while logistic regression analysis was used to determine differences in response to effectiveness or otherwise by respondents at a significant p-value ≤ 0.05. Reasons for effectiveness and ineffectiveness ratings were summarized descriptively.

Ethical Consideration

This study was approved by Nigeria's National Health Research Ethics Committee (NHREC)with approval number; (NHREC Approval Number NHREC/01/01/2007-08/08/2025). The conduct of this study followed ethical guidance. FSWs who consented to participate in the study were assured of their confidentiality, informed of the study objectives, and the duration of the processes of field data collection.

Eligible FSWs based on our inclusion criteria were interviewed by the research assistants using a structured questionnaire. The questionnaire assessed FSWs' perception on the effectiveness of the community-based distribution method of HIVST kits. Five (5) focused group discussions (FGDs)were organized and discussions were tailored towards extracting information in line with the research objectives. English language, Pidgin-English and local dialects were used in some instances in the interactions based on the respondent's preferences. All responses in Pidgin and local dialects were transcribed verbatim in English. In securing and analyzing field data for the study, a high level of confidentiality was maintained. Only select research members directly involved in the study had access to the identified data, its analyses or processes of collation of the result.

Results

Socio-demographic Characteristics

Respondents' socio-demographic-characteristics included age, gender, educational qualification, occupation, residence, the duration they have experienced or undertaken HIVST. Table 1 shows that 90% of the respondents were aged 15–45 years, marital status, married 16%, Divorced/Separated 24%, Not married 70%, different levels of education (21% none, 41% primary, 23% secondary, 15% tertiary) and occupations (55% students (literate), 26% artisans, 19% traders). Urban residents (28%), semi-urban residents (72%), and six to eight months experience with HIVST (98%).

Table 1. Socio-demographic Characteristics of FSWs Experienced on HIVST

Items	Variable	Percentage (%)
Residence	Urban	28
	Semi-urban	72
Age	15-45years	90
Marital Status	Married	16
	Divorced/Separated	24
	Not married	70
Education	None	21
	Primary	41
	Secondary	23
	Tertiary	15
Occupation	Students	55
	Artisans	26
	Traders	19
Experience with HIVST uptake	Six to Eight months	98

Result Presentation and Analyses

- **Research Question One:** To what extent is the community-based distribution method of HIVST kits more confidential than online and pharmacy distribution methods among FSWs.
- **Hypothesis One (H_1):** There is no significant difference in confidentiality between community-based HIVST uptake with online and pharmacy distribution uptakes among FSWs.

Table 2. T-test Analyses of Confidentiality of Community-based Distribution, Method of HIVST Uptake among Urban and Semi-urban FSWs Resident in Lagos State

Variables	Mean	SD	N	t-test	P-Value	Alpha	df	Decision
Urban	21.22	2.91	143	2.81	0.000	0.05	248	Reject Ho1
Semi-urban	25.42	4.56	232					

The result of the data analysis as shown in table 4.1 indicates that the urban residents had a mean value of 21.52 (SD 2.91), while semi-urban residents had a mean score of 25.42 (SD = 4.56). The independent t-test score obtained from the analysis further showed that a value of 2.81 was gotten which indicates a strong evidence of the influence of community based distribution method of HIVST uptake on confidentiality among FSWs unlike online and pharmacy uptakes Testing of the associated hypothesis yielded a p-value of 0.000, which was less than the significant alpha of 0.05. This result showed that there is significant evidence of the influence of community-based distribution method of HIVST uptake on confidentiality among FSWs. The null hypothesis was therefore rejected.

- **Research Question Two:** To what extent is community-based distribution of HIVST, less prone to stigmatization than Online and Pharmacy uptakes among FSWs?
- **Hypothesis Two (H_2):** There is no significant difference on stigmatization in community, Online and Pharmacy HIVST uptake among FSWs

https://doi.org/10.21522/TIJAR.2014.13.03.Art016

Table 3. T-test Analyses of Difference in Stigmatization in Community, Online and Pharmacy based HIVST Uptake among Urban and Semi-urban FSWs resident in Lagos State

Variables	Mean	SD	N	Df	t-test	P-Value	Alpha	Decision
Urban	26.56	2.04	143	248	2.721	0.0004	0.05	Reject H_O2
Semi-urban	21.42	4.56	232					

The result of the data analysis as shown in table 4.2 indicates that urban residents had a mean value of 26.56 (2.04) while semi-urban had mean score of 21.42 (SD = 4.56). This means that there is less stigmatization in community-based distribution method of HIVST uptake among FSWs unlike online and pharmacy uptakes. The independent t-test score obtained from the analysis further showed that a value of 2.721 was gotten which indicates a significant difference on non-stigmatization in community-based HIVST uptake. Testing of the associated hypothesis yielded a p-value of 0.004, which was less than the chosen alpha level of 0.05. This result showed that there is a significant difference on stigmatization in community based HIVST uptake. The hypothesis was therefore accepted.

- **Research Question Three:** To what extent is community-based distribution method of HIVST kits more affordable than online and pharmacy HIVST kit distribution uptake among FSWs?
- **Hypothesis Three (H_3):** There is no significant difference in affordability of community-based distribution, HIVST, online and pharmacy HIVST distribution uptake among FSWs

Table 4. T-test 3 Community, Online and Pharmacy based HIVST Distribution Uptake among Urban and Semi-urban FSWs Resident in Lagos State

Variables	Mean	SD	N	Df	t-test	P-Value	Alpha	Decision
Urban	26.34	2.33	143	248	2.507	0.041	0.05	Reject H_O3
Rural	24.42	4.56	232					

The result of the data analysis, as shown in Table 4.3, indicates that urban residents had a mean value of 26.34 (SD = 2.33), while semiurban residents had a mean score of 24.42 (SD = 4.56). The independent t-test score obtained from the analysis further showed that a value of 2.507 was gotten, which indicates a significant difference on the influence of affordability in community-based distribution method of HIVST uptake among FSWs unlike online and pharmacy uptakes. Testing of the associated hypothesis yielded a p-value of 0.041, which was less than the chosen alpha level of 0.05. This result showed that there is a significant difference in the affordability of the community-based distribution method of HIVST kits compared to online and pharmacy uptakes.

Discussion

This comparative study aimed to examine the effectiveness of the community-based distribution method of HIVST kits among FSWs in Lagos State. The study compared the community-based distribution method of HIVST kits with the online and pharmacy-based distribution method through the responses of urban and semi-urban FSWs.

The study examined perceptions of FSWs on the effectiveness of community-based distribution methods of HIV Self –test kits among Female Sex Workers (FSWs) in Lagos State, Nigeria. The study adopted a

comparative survey design method with eight item statements to ascertain perceptions and reasons for such effectiveness. It examined issues of confidentiality, stigmatization, and affordability in HIVST uptake among FSWs.

The main finding showed that both urban and semi-urban participants preferred the community-based distribution method of HIVST kits to online and pharmacy-based distribution. Beyond proximity and affordability, community-based distribution method of HIVST kits is conducted by FSWs drawn from peer groups, it guarantees confidentiality and has no form of stigmatization or discrimination, unlike other distribution methods.

The findings provided insights into the effectiveness and acceptability of community-based distribution method of HIVST through the responses of both urban and semi-urban FSWs. Recent UNAIDS report suggests the need to promote HIVST in order to mitigate the spread of the disease and to meet the 2030 target [24]. A related finding revealed that the community-based distribution method is more user-friendly. For example, in their study, [25] found that community-based model has positive outcomes through well-trained staff, patient-centered care, and technology integration, while facing challenges such as system inefficiencies and access due to lack of funding.

The online-based model helps to overcome long waiting time as it is swift and less time-consuming. However, from the respondents in our field data, it may not guarantee same confidentiality and affordability as the community-based method since FSWs must have access to the internet or at least use an Android phone. The economically disadvantaged FSWs among them complained of the challenge of affordability; others claimed they do not have money to buy data for network access. Others said they cannot use cybercafes or public places to uphold their confidentiality.

The pharmacy method and similar facility-based models are useful in building-trust, offering of comprehensive care services, and has ART availability, however most of the FSWs elaborated a number of challenges both at the individual and broader societal levels. AS the FSWS stated that as individuals they are stigmatized and discriminated while using such facilities.

A number of previous studies have made similar findings. For example, in their study on differentiated HIV service deliver among FSWs, [26] found that community-based service delivery is most effective.

The findings reinforce the need for more awareness campaigns and intervention, community engagement, inclusive local care delivery service, improved technology know-how, and new approaches to address institutional challenges such as discrimination and stigmatization for effective and inclusive HIVST uptake for FSWs. Although the use of community-based distribution methods proves effective, relying solely on community-based methods could slow down effective transformation in line with 2030 agenda.

Scope

This study focused on assessing the effectiveness of community-based distribution methods of HIV self-test (HIVST) kits among Female Sex Workers (FSWs) in Lagos State. The study was limited to selected FSWs operating within major hotspots, brothels, streets, bars, clubs, and other community settings in the state. Geographically, the study covered selected Local Government Areas (LGAs) in Lagos State where there is a high concentration of FSWs and where HIV self-testing interventions are being implemented by government and partner organizations. These LGAs may include urban and semi-urban areas with active HIV prevention programmes.

However, the study was restricted to HIV self-test kit distribution and did not include other HIV prevention interventions such as

condom distribution, pre-exposure prophylaxis, sexually transmitted infection treatment, or antiretroviral therapy services except where these were discussed in relation to linkage after HIVST. The study did not include male sex workers or other key populations such as men who have sex with men or people who inject drugs. Therefore, the findings are specific to FSWs in Lagos State and may not be generalized to other populations or settings

Implications for Research and Practice

The complex effects of HIV in developing countries such as Africa have made the study of HIV self-testing increasingly important. There is scant evidence of comparative studies on the effectiveness of community-based distribution of HIVST kits among FSWs in Lagos State, South West Nigeria, and the country at large. This has made comparative research on the effectiveness of community-based HIV Self-testing among FSWs important. Understanding the effectiveness of the community-based distribution method of HIVST kits among FSWs is essential for HIV prevention programming and services. The study has the potential to improve HIV testing uptake, increase early identification of HIV infection, and strengthen linkage to care among FSWs, thereby contributing to national HIV prevention goals and the achievement of the 95-95-95 targets promoted by the Joint United Nations Programme on HIV/AIDS.

Contribution to Knowledge

This study contributes to existing knowledge by providing empirical evidence on the effectiveness of different community-based distribution methods of HIV self-test (HIVST) kits among Female Sex Workers (FSWs) in Lagos State. Although previous studies have shown that HIV self-testing can improve access to HIV testing among key populations, there is limited evidence on which specific community-based distribution methods are most effective for reaching FSWs in the Nigerian context. By focusing on FSWs, the study addresses an under-researched population in HIV self-testing literature within Nigeria. Much of the existing literature has focused on the general population or other key populations, leaving limited evidence specific to FSWs.

The findings provide evidence that may be used to refine and strengthen HIV self-testing policies and programmes implemented by the National AIDS, Viral Hepatitis and STIs Control Programme and, the Lagos State AIDS Control Agency, and partner organizations The study highlights the central role of peer educators and peer networks in improving HIVST uptake, thereby contributing to the understanding of peer-led interventions among key populations. It expands knowledge on the barriers and facilitators that influence HIVST use among FSWs, including stigma, confidentiality, convenience, trust, fear of positive results, and access to follow-up services. By focusing on FSWs, the study addresses an under-researched population in HIV self-testing literature within Nigeria. Much of the existing literature has focused on the general population or other key populations, leaving limited evidence specific to FSWs. The findings provide evidence that may be used to refine and strengthen HIV self-testing policies and programmes implemented by the National AIDS and STDs Control Programme, the Lagos State AIDS Control Agency, and partner organizations. The study also serves as a foundation for future research by identifying areas that require further investigation, such as the cost-effectiveness, sustainability, and long-term outcomes of community-based HIVST distribution methods.

Recommendations for Future Research

There is a need to expand research in Nigeria that explicitly investigates HIVST distribution models among FSWs. The limited number of existing studies in this area leaves a critical gap, as this population group is considered hard to reach. Future research should incorporate cost-

effectiveness analyses to evaluate the economic viability of different HIVST distribution methods. Understanding the cost per individual reached, per HIV-positive case identified, and per person linked to care will provide critical evidence for policymakers and programme implementers, particularly within the context of resource constraints. Additionally, to broaden methodological approaches, a future study should adopt more rigorous research designs, such as randomized controlled trials or quasi-experimental approaches, to enable stronger causal inference when comparing the effectiveness of different HIVST distribution models. While this study provides important insights, more robust comparative evidence is needed to determine the most effective strategies across diverse contexts of public health services.

Conclusion

Community-based HIVST uptake was effective, affordable, and safe; issues of stigmatization, discrimination, neglect, and disregard for FSWs were minimal, as some of the major factors that were responsible for the effectiveness of community-based HIVST kit distribution. This has not only promoted the uptake of community-based HIVST, but it has also helped to control the spread of the disease, promote increasing response to community-based distribution, strengthen the knowledge of health status of FSWS, and importantly mitigate the spread of new HIV infections.

This has serious urgent policy implications. To this end, policymakers, community leaders, and relevant stakeholders should step up various interventions at promoting community based HIVST kit distribution for increase HIVST uptake to address the critical health challenges of key population, through effective public awareness campaigns, workshops, and enlightenment programmes at the community level, to check ill treatments to FSWs and in particular, meet the health needs of FSW. The essence is to promote and sustain the effectiveness of community-based distribution methods, eliminate the spread of disease, contribute to better health outcomes, and institutionalize a broader anti-discrimination community.

Conflict of Interest

The author has declared none.

Funding

There is no funding to report, the author funded this study.

Data Availability

Yes, and were included in the result section.

Ethical Approval

This study was approved by Nigeria's National Health Research Ethics Committee (NHREC).

Author Contributions

The first author conceptualized and coordinated the research; the second author provided technical guidance and approval, reviewed, and supported data synthesis. The third and fourth authors supported the review of draft narratives, participated in conflict resolution. all authors contributed to the final manuscript.

Acknowledgements

The author acknowledges all those involved in the study, the NHREC Committee, the research assistants, and the CBDs and OSS staff for providing services to FSWs at the various facilities.

References

[1]. Joint United Nations Programme on HIV/AIDS (UNAIDS). AIDS, crisis and the power to transform: UNAIDS Global AIDS Update 2025. Geneva: Joint United Nations Programme on HIV/AIDS; 2025.

[2]. Stevens DR, Vrana CJ, Dlin RE, Korte JE. Global review of HIV self-testing: themes and implications. AIDS Behav. 2018;22(2):497-512. doi:10.1007/s10461-017-1707-8.

[3]. Boisvert MM, Kintink FD, Atchekpe S, Batona G, Béhanzin L, Guédou FA, et al. HIV self-testing implementation, distribution and use among female sex workers in Cotonou, Benin: a qualitative evaluation of acceptability and feasibility. BMC Public Health. 2022;22(1):589. doi:10.1186/s12889-022-12917-3. PMID:35346119; PMCID: PMC8962183.

[4]. Eluwa GI, Strathdee SA, Adebajo SB, Ahonsi B, Azeez A, Anyanti J. Sexual risk behaviors and HIV among female sex workers in Nigeria. J Acquir Immune Defic Syndr. 2012;61(4):507-14. doi:10.1097/QAI.0b013e31826dfb41.

[5]. Tesfie TK, Yismaw GA, Yirsaw BG, Abuhay HW, Alemayehu MA, Derseh NM, et al. Prevalence and associated factors of HIV among female sex workers in Eastern and Southern Africa: systematic review and meta-analysis. PLoS One. 2024;19(12):e0313868. doi:10.1371/journal.pone.0313868. PMID:39621614; PMCID: PMC11611193.

[6]. Baral S, Beyrer C, Muessig K, Poteat T, Wirtz AL, Decker MR, et al. Burden of HIV among female sex workers in low-income and middle-income countries: a systematic review and meta-analysis. Lancet Infect Dis. 2012;12(7):538-49.

[7]. Alary M, Lowndes CM. The central role of clients of female sex workers in the dynamics of heterosexual HIV transmission in sub-Saharan Africa. AIDS. 2004;18(6):945-7. https://doi.org/10.1097/00002030-200404090-00013.

[8]. Joint United Nations Programme on HIV/AIDS (UNAIDS). Global AIDS Update: Seizing the moment, tackling entrenched inequalities to end epidemics. Geneva: UNAIDS; 2020. Available from: https://www.unaids.org/en/resources/documents/2020/global-aids-report

[9]. National Agency for the Control of AIDS (NACA). New survey results indicate that Nigeria has an HIV prevalence of 1.3% [Internet]. 2025. Available from: https://naca.gov.ng/Nigeria-prevalence-rate/

[10]. World Health Organization. HIV Self-Testing: Key Questions, Answers, and Messages for Community Organizations. Geneva: WHO; 2023. Available from: https://iris.who.int/bitstream/handle/10665/273771/WHO_CDS-HIV_18.23-eng.pdf

[11]. Olokor F, Muntari T, Wakaso A. 68,788 persons with HIV in Niger, Kano, 2,368 newly infected States. The Punch Newspaper. 2021. Available from: https://punchng.com/68788-persons-with-hiv-in-niger-kano-2368-newly-infected-states/

[12]. Sunkanmi A, Wumi L, Akodu B, Odeyemi K. Acceptability and willingness to use HIV pre-exposure prophylaxis among female sex workers in Lagos State, Nigeria: a cross-sectional study. BMC Public Health. 2025. doi:https://doi.org/10.21203/rs.3.rs-7066966/v1.

[13]. Zhang Y, Johnson C, Nguyen V, Ong J. Role of HIV self-testing in strengthening HIV prevention services. Lancet HIV. 2024;11(11):e774-e782. https://doi.org/10.1016/S2352-3018(24)00187-5.

[14]. Jamil MS, Johnson C, Hatzold K, Chidarikire T, Corbett EL, Baggaley R, et al. HIV self-testing: the path from an innovation to a necessity. BMC Infect Dis. 2025;25(1):930. doi:10.1186/s12879-025-11272-z. PMID:40691786; PMCID: PMC12278533.

[15]. Unitaid, World Health Organization. Market and technology landscape: HIV rapid diagnostic tests for self-testing. 4th ed. Geneva: Unitaid; 2018.

[16]. Atuhaire L, Adetokunboh O, Shumba C, et al. Effect of community-based interventions targeting female sex workers along the HIV care cascade in sub-Saharan Africa: a systematic review and meta-analysis. Syst Rev. 2021;10:137. https://doi.org/10.1186/s13643-021-01688-4.

[17]. Cambiano V, Johnson C, Hatzold K, Terris-Prestholt F, Maheswaran H, Thirumurthy H, et al. The impact and cost-effectiveness of community-based HIV self-testing in sub-Saharan Africa: a health economic and modelling analysis. J Int AIDS Soc. 2019;22(S1):25243. https://doi.org/10.1002/jia2.25243.

[18]. Atuhaire L, Adetokunboh O, Shumba C, et al. Effect of female sex work-targeted community-based interventions along the HIV treatment cascade in sub-Saharan Africa: a systematic review protocol. BMJ Open. 2020;10:e039495. doi:10.1136/bmjopen-2020-039495.

[19]. Indravudh PP, Fielding K, Kumwenda MK, Nzawa R, Chilongosi R, Desmond N, et al. Effect of community-led delivery of HIV self-testing on HIV testing and antiretroviral therapy initiation in Malawi: a cluster-randomised trial. PLoS Med. 2021;18(5):e1003608. https://doi.org/10.1371/journal.pmed.1003608.

[20]. Olakunde BO, Adeyinka DA, Ujam C, Ejeckam C, Cherkos AS, Ndukwe CD, et al. Prevalence and correlates of prenatal HIV testing among female sex workers in Nigeria. Int J STD AIDS. 2024;35(14):1133-41. doi:10.1177/09564624241284078.

[21]. Ajaegbu H, St Matthew-Daniel U, Uya O, Mamman A, Oyebanji J, Petters S, editors. Nigeria: A People United, a Future Assured. Vol. 1. Abuja: Federal Ministry of Information; 2000.

[22]. Joint United Nations Programme on HIV/AIDS (UNAIDS). Evidence for eliminating HIV-related stigma and discrimination: guidance for countries to implement effective programmes to eliminate HIV-related stigma and discrimination in six settings. Geneva: UNAIDS; 2020. Available from: https://www.unaids.org/sites/default/files/media_asset/eliminatingdiscrimination-guidance_en.pdf

[23]. Adepoju VA, Umebido C, Adelekan A, Onoja AJ. Acceptability and strategies for enhancing uptake of human immunodeficiency virus self-testing in Nigeria. World J Methodol. 2023;13(3):127-41. doi:10.5662/wjm.v13.i3.127. PMID:37456976; PMCID: PMC10348083.

[24]. Joint United Nations Programme on HIV/AIDS (UNAIDS). Country factsheets: Nigeria. Geneva: UNAIDS; 2019. Available from: https://www.unaids.org/fr/regionscountries/countries/Nigeria

[25]. Bansi-Matharu L, Revill P, Taramusi I, Steen R, Chabata ST, Busza J, et al. The effect on HIV transmission and cost-effectiveness of programmes for female sex workers in East, Central, and Southern Africa: a modelling study. Lancet Glob Health. 2024;12(9):e1436-e1445. doi:10.1016/S2214-109X(24)00224-9. PMID:39151979; PMCID: PMC7618189.

[26]. Motsieloa L, Phalane E, Abdulrahman A, Phaswana-Mafuya RN. Differentiated HIV service delivery model for female sex workers in sub-Saharan Africa: a systematic review. S Afr J HIV Med. 2025;26(1):a1626. https://doi.org/10.4102/sajhivmed.v26i1.1626.