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Research

Is the prevalence of HIV wrongly estimated in Nigeria? Some insights from a 2017 World AIDS day experience from a Nigerian Non-Governmental Organisation

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Abstract

Introduction: HIV is still a major public health challenge, especially in resource-limited settings. In Nigeria, it is estimated that over 50% of those infected with HIV do not know their status. With the recent Nigerian governmental approval of a "Test and Start Strategy", we embarked on HIV testing and services in four defined locations to mark 2017 World AIDS Day. The aim of this report is to document the process and outcome of the exercise. **Methods:** four teams led by senior clinical associates implemented the services and were mandated to test at least 100 persons per location. At each location, we carried out the following activities: (1) short advocacy to community leaders, (2) HIV testing and counselling, (3) disclosure of results, post-test counselling and healthy life-style education and (4) distribution of free male condoms and Information, Education and Communication (IEC) material. **Results:** a total of 237 people (male 195, female 42) were tested, the majority of whom were between 19 and 49 years (93.7%). Two people were found to be positive, giving a 0.84% positivity rate. Informal interactions between service providers and the people tested revealed that people were aware of HIV as a public health problem, and people positively received HIV services. Although there is a selection bias, as those tested will not be truly representative of the population, the current positively rate of less than 1% is low compared to previous Nigerian estimates, which are based on antenatal testing. However, the exercise showed a willingness to be tested and fair knowledge of HIV as a problem. Population-based data from across Nigeria should be aggregated to determine community prevalence pending the National population-based HIV survey in 2018. Such information will inform evidence-based decisions on the necessity of such large-scale surveys in future years. **Conclusion:** there is an urgent need to define the real prevalence of HIV in Nigeria through a well planned and executed community based survey.

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Introduction

HIV has remained a disease of public health importance since 1981 when it was identified and characterized [1,2]. To date, HIV has claimed more than 35 million lives with over a million people dying from HIV-related causes globally. It is estimated that approximately 36.7 million people are living with HIV by the end of 2016 [3, 4] and 1.8 million new infections occurred in the same year globally. Pregnant women, infants and other vulnerable populations, such as prison inmates and men who have sex with men have higher risk of acquiring HIV and thus developing AIDS. In Nigeria, the prevalence of HIV has previously been determined by antenatal studies. Seroprevalence studies among antenatal clinic (ANC) attendees in some Nigeria centres have shown variable prevalence rates over the years ranging from a nadir of 1.8% (1991) to a peak of 5.8% in 2001, with a more recent estimate of 3.0% in 2014 [5]. However, many have questioned the validity of using ANC studies to estimate national prevalence as all ANC attendees are sexually active and the majority in Nigeria are in stable relationships. Thus, another study-the National HIV & AIDS and Reproductive Health Survey (NARHS)-has been used as an alternative to the ANC seroprevalence studies. According to NARHS, the national HIV prevalence rate obtained in 2013 was 3.4%, lower than the 3.6% reported in 2007 and further supporting the declining HIV prevalence reported from ANC studies [6]. However, the NARHS sampling and research methodology may not provide a reliable estimate of the general population. It is estimated that over 50% of those infected with HIV do not know their status as HIV testing and counselling in the country is still low. According to National Demographic and Health Survey, seven in 10 women and about 8 in 10 men have never been tested for HIV [7]. With the recent approval of Test and Start Strategy by the Federal Ministry of Health in Nigeria, to mark 2017 World AIDS Day (WAD) with the Theme: MY HEALTH, MY RIGHT [8]; Excellence and Friends Management Care Centre (EFMC), with permission and support from National Agency for the Control of AIDS (NACA) embarked on strategic HIV testing and services in four defined locations in Abuja, Federal Capital Territory (FCT) on December 1st, 2017. The aim of this report is to document the process and outcome of the exercise; as well as to review some critical findings.

Methods

Excellence and Friends Management Care Centre (EFMC) is one of the Nigerian non-governmental organizations partnering with NACA, the Nigerian Federal Ministry of Health (FMOH), the United States President's Emergency Plan for AIDS Response (PEPFAR) and other donors/partners to implement a comprehensive HIV response in Nigeria, aimed at eliminating HIV as a diseases of public health importance. We obtained approval to implement strategic HIV testing and services (HTS) in key locations in Abuja, FCT from NACA. NACA also sponsored media activities to sensitise the public for HIT testing during the World AIDS Day week in several national radio and television channels. EFMC staff and management planned, sourced for materials, implemented and reported on a one-day HIV Testing Services (HTS) in four different locations within Abuja, FCT (Figure 1). Four teams led by senior clinical associates implemented the services and were mandated to test at least 100 persons per location. We arrived at each location to meet receptive clients who were waiting to be tested. Most clients heard about the exercise on radio. The four teams were made up of between four to ten EFMC staff stationed at Dutse Junction, EFAB Estate, Galadima Junction and EFMC Dawaki Office, all in Bwari Area Council, Abuja Nigeria. At each location, depending on the nature of the site, we carried out the following activities: (1) short advocacy to community leaders, (2) HIV testing and counselling, (3) disclosure of results, post-test counselling and healthy life-style education and (4) supply of free male condoms and Information, Education and Communication (IEC) material distribution. An example of an outreach location is shown in and HIV testing in Figure 2. Consent was obtained from EFMC Board as well as from each client before counselling and testing was carried out. Clients confidentiality and privacy were maintained as data was anonymized with all identifiers removed before recording and analysing.

Results

A total of 237 people (male 195, female 42) were tested across the four sites, with the majority (42%) tested at the Galadimma bus-stop (Table 1). The majority (222, 93.7%) of those tested were between 19 and 49 years. Two (2) people were found to be positive, giving a 0.84% positivity rate (Table 2). Both of those reactive were females within the age group 25-49 years. Of the two who were reactive, one already knew her status and was re-testing. Informal interactions between service providers and the people tested revealed that people were aware of HIV as a public health problem and people positively received HIV services.

Discussion

Although there may be some element of selection bias, as those tested may not be truly representative of the population, the current positively rate of less than 1% is low compared to previous positivity rates. It will be good to compare this positivity rate with the positivity rates of other organizations that carried out similar exercise in other parts of the region and across the Nigeria. The data across the country should also be compiled and aggregated to determine the community prevalence pending the implementation of the National population-based HIV survey in 2018. It will also be useful to compare the findings from the aggregate with the findings of the periodic antenatal sentinel and population-based surveys. Such comparison will inform evidence based decisions on the necessity of such large-scale surveys in future years. Integrating this outreach with other healthcare services will both increase uptake, acceptability and improve efficiency in the use of resources as previously reported [9]. The absence of a truly community-based HIV prevalence for Nigeria further justifies the need for a population based study as currently proposed by the country [10, 11]. However, this resource can also be used to achieve the first 90 of the UNAIDS 90-90-90 goals in Nigeria. This may require additional funds, but the benefits of such a program will far outweighs the additional funds needed to make it happen. Our findings again show that more males are willing to access HIV testing than females, but still have far lower positivity rate than females. This is slightly different to our 6-year report in HIV programming in Nigeria where a total of 915, 058 people were tested for HIV between 2011/2012 and 2016/2017 from our 75 supported delivery sites, out of which 27,121 were HIV positive with a positivity rate of 3.0%; but only 38.9% of all those tested were males as shown in Table 3 [12]. Recent publication by UNAIDS on December 1,2017 revealed that "men are less likely to take an HIV test, less likely to access antiretroviral therapy and more likely to die of AIDS-related illnesses than women". UNAIDS goes on to say "Globally, less than half of men living with HIV are on treatment, compared to 60% of women. Studies show that men are more likely than women to start treatment late, to interrupt treatment and to be lost to treatment follow-up" [13].

In as much as we believe that this assertion was based on available data, our experience in the field is slightly different as more females

were willing to be tested, but unpublished reports and discussions with participants, males are more likely to honestly discuss their sexual habits (even when they have multiple sexual partners), commence treatment and stay on treatment [12]. Our field experience supports this to an extent. For instance, data from our six years work in Nigeria shows that between 2011/12-2016/17, close to a million people were tested for HIV across our supported service delivery points (Table 3). Over 61% of all those tested (539,313) were females. Further review of the report showed that females were more likely to be positive with HIV (3.5% vs. 2.2%) and less likely to be enrolled into treatment (48.4% vs. 54.3%). This report shows that, although less men were tested, a higher proportion of males who were HIV positive actually enrolled into treatment than their female counterpart. Also, by 2016/17, a slightly higher percentage of positive males (3225/4177; 77.2%) were currently on treatment as compared to 74.5% (7005/9404) positive females. This difference in parameters calls for further investigation to identify the factors responsible for this [12]. People in this Nigerian population are aware of HIV and AIDS [6, 7]. Apart from sexual transmission, many people are still living in ignorance of the other means of transmitting HIV as some participants felt that since they were not involved in indiscriminate sex, they could not contract the virus. There are also those who are not willing to go for a test to know their status, preferring to live in ignorance than find out what their status is. This was evidenced in the apprehension of some people who came for testing. Most public outreach approaches may be reaching some of the same set of people who are tested and retested at various times. This group of people may have fully accepted the concept of routine HIV testing. However proper and structured sensitization/awareness coupled with strategic testing may be needed to reach those in hard to reach communities.

Limitations: Each team was given 100 rapid test kits which was inadequate in one location, but sufficient for the others. Proper allocation of consumables will result in better programming. Only male condoms were distributed and many people expressed a desire for female condoms. It was more difficult to convince people to test once the condom supply was exhausted as they incentivised testing. Finally, inadequate on ground mobilization prior to the WAD may have affected enrolment in some testing locations. Also, the small sample size and convenience sampling technique limits the generalisation of these findings as it many not be a true representation of the actual prevalence of HIV in FCT, Abuja, Nigeria. It only suggest that the prevalence of HIV might be lower than the reported national average.

Conclusion

While community-based testing has consistently had lower positivity rate when compared with facility based testing (less than 1% vs 3% in this study), national programming is primarily based on facility-based data such as the sentinel studies using antenatal women. We believe that the use of such data-irrespective of how it was modified to accommodate the non-sexually active population, may be artificially swelling the HIV prevalence rates in Nigeria. This again, justifies the need for a population-based study. Despite the limitations of this study, our findings reveal that the true prevalence of HIV in Nigeria maybe largely unknown as the current figures used may not be accurate as the test are done mostly among sexually active people. This study questions, therefore, the accuracy of current national HIV prevalence as field evidence shows a lot lower prevalence rate. There is the need to revisit the national HIV prevalence, use aggregate field reports to estimate the true prevalence rate, as well as fund, execute and report on a truly properly planned community based prevalence study in Nigeria. We need to develop and execute this proposed properly planned population based study to properly document the true prevalence of HIV in Nigeria. However, while working on a formal population based study, we can aggregate the various field work reports to get an idea what the true prevalence is in Nigeria.

What is known about this topic

- HIV is a major public health challenge with an estimated three million plus living with the virus in Nigeria and an estimated prevalence rate of 3.0% in 2014;
- Over the years, the national prevalence is based on periodic sentinel surveys using pregnant women and or National HIV and AIDS and Reproductive Health Survey.

What this study adds

- This study questions the accuracy of current national HIV prevalence as field evidence shows a lot lower prevalence rate than what is known from other studies;
- There is the need to revisit the national HIV prevalence, aggregate field reports to estimate the true prevalence rate, as well as fund, execute and report on a truly properly planned community based prevalence study in Nigeria.

Competing interests

The authors declare no competing interests.

Authors' contributions

Obinna Ositadimma Oleribe and his team developed, design, implemented and evaluated the World AIDS Day program. All authors reviewed and finalized the manuscript. All authors read and approved the final manuscript.

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Figure 2: WAD HIV testing and services under a canopy, December 1, 2017

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Table 1: Table showing testing frequency per location in Abuja, FCT, Nigeria, December 2017

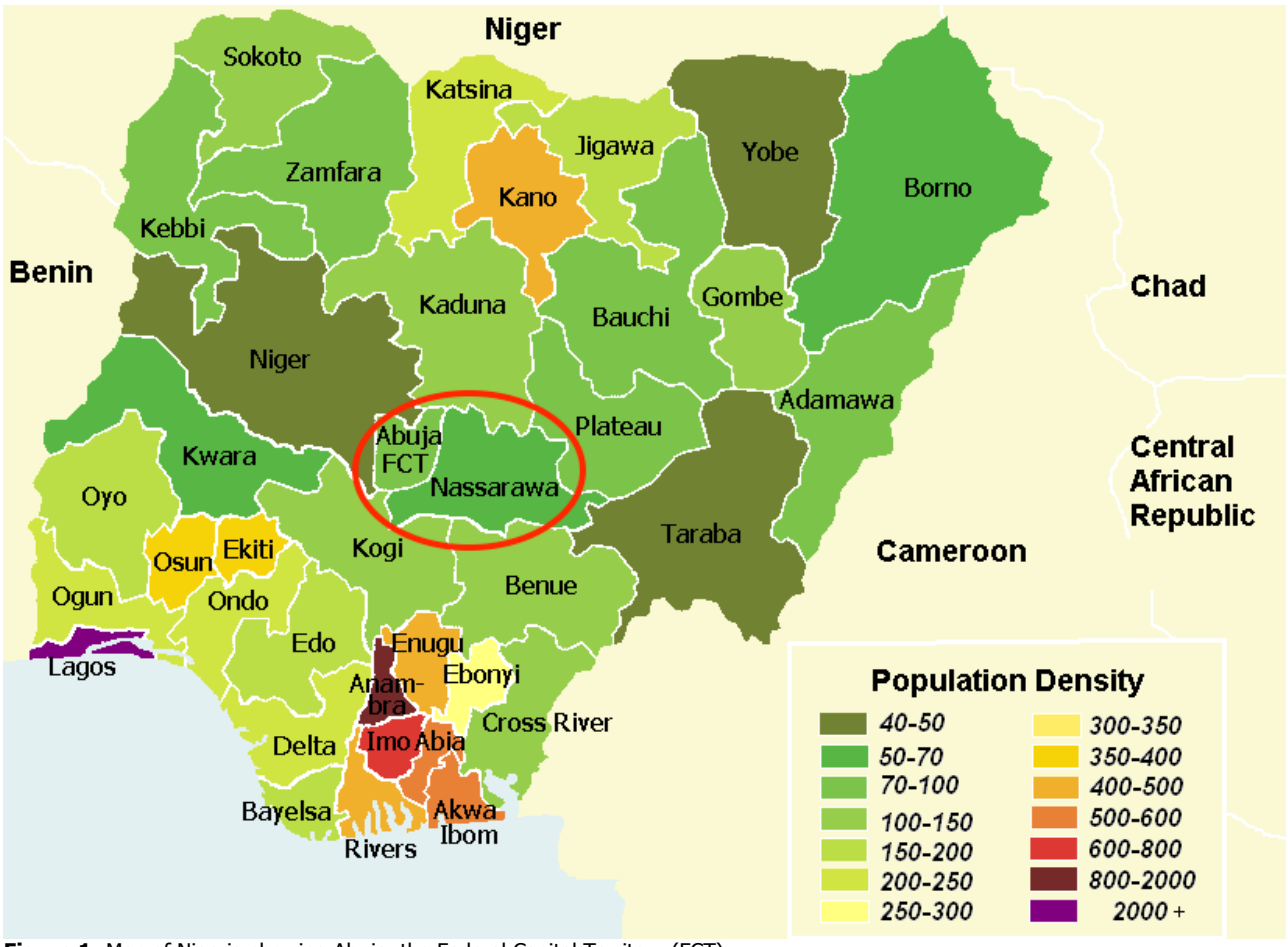
Location	Male		Females		Total	
Galadimma	77	77%	23	23%	100	42%
EFMC Office	27	93%	2	7%	29	12%
Dutse-Alhaji Junction	42	81%	10	19%	52	22%
Efab Estate - Dutse	49	88%	7	13%	56	24%
Total	**195**	**82%**	**42**	**18%**	**237**	**100%**

Table 2: Table showing age and sex disaggregation of those tested at the World AIDS Day program, December 2017

Age Group	Male		Female	
	Tested	Positive	Tested	Positive
0 – 14	-	-	-	-
15 – 18	5	-	1	-
19 – 25	32	-	10	-
25 – 49	150	-	30	2
>50	8	-	1	-
	195	**0**	**42**	**2**

Table 3: Key indicators from a six-year comprehensive HIV program in Northern Nigeria: 2011 -2017

Indicators	Male	Female	Total
HTC tested	356,319 (38.95)	558,739 (61.1%)	915,058 (100%)
HTC positive	7,695 (2.2%)	19,426 (3.5%)	27,121(3.0%)
HTC negative	348,624 (97.8%)	539,313 (6.5%)	887,937 (97.0%)
New on treatment/Treatment enrolment rate	4,177 (54.3%)	9,404 (48.4%)	13,581 (50.1%)



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