

Research Article

Using Client Flow to Assess Effectiveness of Voluntary Counseling and Testing Service as the Gateway in the Control of HIV/AIDS in Anambra State, South-East Nigeria

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Anambra State, South-East Nigeria, had high prevalence of HIV averaging 7.1% during period under study. In line with national guidelines, the State established 117 Voluntary Counseling and Testing (VCT) centers designed to function as 'gateway' service to other HIV/AIDS services in the State. This study assessed the effectiveness of VCT centers as 'gateway' to other HIV/AIDS services in Anambra State for the period 2006 to 2011 using the client flow recorded by the VCT centers. Descriptive documentary survey was adopted. Secondary data comprising of client flows of the VCT centers were collected. The data were presented in tables as integrated annual summary reports, and analysed as percentages, comparison, and for significance using Chi-Square Test of Significance @ 0.05. It was found that average annual client flows of 1.89% at the VCT centers were not significant. Inference was drawn and conclusion made that VCT service, for the years under study, was not an effective gateway to other HIV/AIDS services in Anambra State. The study recommends a paradigm shift to Universal Counseling and Testing involving, among other features; focus on provider-initiated counseling and testing and liberalization of the location of UCT centers in other public places with high client catchment potentials such as Government Secretariats.

Keywords: Anambra state; Client flow; Gateway; HIV/AIDS; Control services; VCT center

Abbreviations

AIDS: Acquired Immune Deficiency Syndrome; ANC: Ante-Natal Clinic; ANSACA: Anambra State AIDS Control Agency; ART: Anti Retroviral Therapy; BG: Blood Group; FMOH: Federal Ministry of Health; GHAIn: Global HIV/AIDS Initiative Nigeria; HBC: Home Based Care; HIV: Human Immunodeficiency Virus; LGA: Local Government Area; MCT: Mobile Counseling and Testing; NACA: National Action Committee on AIDS; NNRIMS: Nigeria National Response Information Management System; OVC: Orphan and Vulnerable Children; PME: Periodic Medical Examination; PMTCT: Preventing Mother to Child Transmission; SEEDS: State Economic Empowerment and Development Strategy; STIs: Sexually Transmitted Infections; TCAM: Traditional, Complementary and Alternative Medicine; UCT: Universal Counseling and Testing; VCT: Voluntary Counseling and Testing; WHO: World Health Organization

Introduction

From June 1981 when Human Immune Deficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) were first reported in the United States to 1986 when it was first reported in Nigeria, Nigerians regarded HIV/AIDS as a foreign disease. Post 1986 HIV/AIDS debate in Nigeria was characterized by controversy and denial until the first national HIV sero-prevalence survey of

1991 released an alarming report that 1.8% of Nigerians were already infected with HIV [1]. Subsequent national HIV sentinel surveillance reports showed consistently high prevalence (3.8% in 1993; 4.5% in 1996; 5.4% in 1999; 5.8% in 2001), with a slow decline thereafter (5.0% in 2003; 4.4% in 2005; 4.6% in 2008; and 4.1% in 2010), evidencing disease stabilization [2,3].

For Anambra State, HIV prevalence has been consistently high when compared with the national average. It was equal with the national average prevalence in 1991 at 1.8%; exceeded the national average in 1995 and 1999 at 5.8% and 6.1% respectively; and fell slightly below the national average in 2001, 2003 and 2005 at 5.6%, 3.5% and 3.2% respectively. In 2008, the Anambra State prevalence (5.6%) again rose above the national average and more than doubled (8.5%) the national average prevalence in 2010 [2-4].

Leading the national response against HIV/AIDS, the Federal Ministry of Health (FMOH) in 2003 adopted American-model Voluntary Counseling and Testing (VCT) program strategy as the 'gateway' or 'entry-point' service that will 'feed' clients to other HIV/AIDS services including Home Based Care (HBC), Orphan and Vulnerable Children (OVC), peer support groups; Anti Retroviral Therapy (ART), Preventing Mother to Child Transmission (PMTCT), etc [5]. On the heels of this, the Ministry also issued another guideline to regulate the training and deployment of counselors and laboratory

testers in the VCT centers in Nigeria [6]. In line with these National Guidelines, Anambra State, with support from Development Partners, established 117 VCT centers and deployed trained counselors and testers by 2004 [4].

The major features of this model of VCT are: (i) Uptake of services is client-initiated, not provider initiated. (ii) The VCT center is integrated into existing health facilities so that potential clients are shielded from easy identification and consequent stigma and discrimination. (iii) Taking HIV test is voluntary, not mandatory. (iv) Test result is confidential and cannot be disclosed without the prior consent of the client. (v) Human right considerations are accorded to the HIV positive person including rights to non-discrimination. (vi) The VCT program, after counseling and testing, will subsequently refer the client to the next relevant and most appropriate HIV/AIDS service(s).

The first and second features of this VCT model face the problem of apparent conflict with prevailing mindset and attitudes of the average Nigerian. Will the prevailing level of illiteracy and ignorance allow the average Nigerian to take the initiative to access VCT services within the health facility setting? It is popular knowledge that Nigerians, on the average, do not go for medical advice or routine medical checks/test unless they are 'sick'. Hence, the hospital/health facility is largely seen as a place attended only by the unwell person. Therefore, integrating VCT center into existing health facilities, though well-intentioned, may discourage attendance by potential clients.

For the VCT center to serve as an effective and efficient 'gateway' to other HIV/AIDS services, it must, first, generate adequate and sufficient client flow on its own. Thereafter, it will feed / refer clients to other available services. This study seeks to ascertain the client-flow capacity of all VCT centers in Anambra State and evaluate their effectiveness as 'gateway' to all other HIV/AIDS programs and services.

Since VCT service is already adopted as the 'gateway' to all other HIV/AIDS services, the success or failure of the entire HIV/AIDS programming depends to a large extent on VCT service, and invariably, on the client flow generated by VCT centers. If this study finds any shortcoming with the VCT service and suggests appropriate solutions that improves it, the study would have improved the entire HIV/AIDS intervention in the State and reduce both morbidity and mortality from HIV/AIDS in Anambra State in particular and Nigeria in general.

Materials and Methods

Description documentary survey was adopted. Secondary data of the client flow and service transactions of all 117 VCT centers in Anambra State for the years under study were collected from the Anambra State AIDS Control Agency (ANSACA) which collates returns from the VCT centers, and the Nigeria National Response Information Management System (NNRIMS) of the National Action Committee on AIDS (NACA). The data were presented in tables as integrated annual summary reports, and analysed as percentages, averages, comparison, and for fit and significance using Chi-Square Test of Significance @p < 0.05.

Data Presentation

Table 1: Summary of Health Facilities in Anambra State Providing VCT and Other HIV/AIDS Services by Local Government Area (LGA).

S/No	LGA	Urban Status	No. of Health Facilities Providing VCT Services	No. of Health Facilities Providing PMTCT Services	No. of Health Facilities Providing ART Services
1	Aguata	Semi-urban	7	1	1
2	Anambra East	Rural	5	0	0
3	Anambra West	Rural	3	1	1
4	Anaocha	Semi-urban	9	7	2
5	Awka North	Rural	4	0	0
6	Awka South	Urban	10	7	1
7	Ayamelum	Rural	3	0	0
8	Dunukofia	Semi-urban	5	1	1
9	Ekwusigo	Rural	8	5	0
10	Idemili North	Urban	9	7	1
11	Idemili South	Semi-urban	6	1	1
12	Ihiala	Semi-urban	4	1	1
13	Njikoka	Semi-urban	6	1	0
14	Nnewi North	Urban	6	2	1
15	Nnewi South	Rural	4	0	0
16	Ogbaru	Semi-urban	9	5	0
17	Onitsha North	Urban	6	4	4
18	Onitsha South	Urban	2	1	0
19	Orumba North	Rural	4	1	0
20	Orumba South	Rural	3	0	0
21	Oyi	Rural	6	1	1
	Total		117	45	14

Source: Summarized from the Directory of Facilities Providing HIV Services in Anambra State. Anambra State AIDS Control Agency (ANSACA).

Table 2: Summary of VCT Related Services in Anambra State (2006).

S/No	Nature of service/transaction	Male	Female	Total
1	Number of clients pre-test counseled	22,616	44,833	67,449
2	Number of clients tested for HIV	22,393	40,240	62,633
3	Number of clients who received their results	22,166	38,981	61,147
4	Number of clients post-test counseled	22,125	38,906	61,031
5	Number of clients who test positive	3,286	5,957	9,243
6	Number of clients who test negative	18,986	33,464	52,450
7	Number of clients referred for care and support services	2,168	3,914	6,082
8	Number of self referrals for counseling and testing	13,727	24,631	38,358
9	Number of medical referrals for counseling and testing	5,476	12,516	17,992

Source: NNRIMS Summary Report (Year 2006) Anambra. Nigeria National Response Information Management System (NNRIMS), National Action Committee on AIDS (NACA).

Table 3: Summary of VCT Related Services in Anambra State (2007).

S/No	Nature of service/transaction	Male	Female	Total
1	Number of clients pre-test counseled	18,680	36,174	54,854
2	Number of clients tested for HIV	18,450	31,670	50,120
3	Number of clients who received their results	18,005	30,892	48,897
4	Number of clients post-test counseled	17,972	30,869	48,841
5	Number of clients who test positive	2,093	4,080	6,173
6	Number of clients who test negative	16,260	27,385	43,645
7	Number of clients referred for care and support services	1,699	3,416	5,115
8	Number of self referrals for counseling and testing	8,234	14,502	22,736
9	Number of medical referrals for counseling and testing	4,287	9,109	13,396

Source: NNRIMS Summary Report (Year 2007) Anambra. Nigeria National Response Information Management System (NNRIMS), National Action Committee on AIDS (NACA).

Table 4: Summary of VCT Related Services in Anambra State (2009).

S/No	Nature of service/transaction	Male	Female	Total
1	No. of clients pre-test counseled	45,160	62,762	107,922
2	No. of clients tested for HIV	55,565	75,312	130,873
3	No. of clients who receive their results	65,645	75,873	131,556
4	No. of clients post-test counseled	45,408	61,896	107,304
5	No. of clients who test positive	3,592	7,332	10,554
6	No. of clients who test negative	49,519	66,800	114,641
7	No. of clients referred for care and support services	6,138	10,338	16,476
8	No. of self referrals for counseling and testing	13,658	18,869	32,527
9	No. of medical referrals for counseling and testing	293	998	1,291

Source: Anambra State AIDS Control Agency (ANSACA)

Table 5: Summary of VCT Related Services in Anambra State (2010).

S/No	Nature of service/transaction	Male	Female	Total
1	No. of clients pre-test counseled	43,161	58,628	101,789
2	No. of clients counseled and tested for HIV	42,945	58,182	101,127
3	No. of clients post-test counseled	42,977	57,953	100,930
4	No. of clients post-test counseled and receive result	43,209	58,042	101,251
5	No. of clients tested HIV positive	3,012	5,815	8,827
6	No. of clients tested HIV negative	43,584	54,984	98,564
7	No. of client referred to other care & support services	5,042	9,551	14,593
8	No. of clients medically referred to VCT from other services	1,452	3,970	5,422
9	No. of clients self referred	17,016	22,322	39,338

Source: Anambra State AIDS Control Agency (ANSACA)

Analysis

What is the rate of client flow at VCT centers in Anambra State? If the number of clients who visited the VCT centers for counseling for the respective years under study is compared against the population of the State, the following annual client flow rate shall emerge. For year 2006, with a population of 4 005 048 and 67 499 clients counseled, the client flow rate was 1.31%. For years 2007, 2009, 2010 and 2011, the client flow rates were 2.44%, 2.24% and 1.78% respectively. For the five years, the average client flow rate was

Table 6: Summary of VCT Related Services in Anambra State (2011).

S/No	Nature of service/transaction	Male	Female	Total
1	No. of clients pre-test counseled	32,013	51,292	83,305
2	No. of clients counseled and tested for HIV	31,955	51,012	82,967
3	No. of clients post-test counseled	31,969	50,989	82,958
4	No. of clients post-test counseled and receive result	31,962	50,841	82,803
5	No. of clients tested HIV positive	2,615	5,170	7,785
6	No. of clients tested HIV negative	30,389	46,470	76,859
7	No. of client referred to other care & support services	3,023	5,270	8,293
8	No. of clients with medial referrals to VCT	974	1,500	2,474
9	No. of clients self referred	7,126	10,845	17,971

Source: Anambra State AIDS Control Agency (ANSACA)

NB:

- Data are not available for year 2008 owing to operational reviews and re-structuring of ANSACA.
- There is a slight variation in reporting format as from 2009 onwards.
- Few inconsistencies exist in some data figures that 'mis-match' with supposedly related entries especially from 2009 upwards. This arose from changes in some policy directives such as a circular issued in 2009 which allowed certain categories of emergency cases (such as critical accident victims) to be tested without counseling. Hence, such special cases bring a mis-match between related data entries.

1.89%. For subsequent years after 2006, the 2006 census population was projected with 2.9% annual growth rate officially used by the State Economic Empowerment and Development Strategy (SEEDS) document [7].

From the foregoing, it follows therefore, that the average annual client flow rate for all VCT centers in Anambra State was 1.89% for the period under study. Apparently, this client flow rate appears inadequate for a State experiencing high prevalence of HIV/AIDS. If a client flow rate of 1.89% per annum was inadequate for Anambra State, what client flow rate could one reasonably expect to be adequate?

Since HIV is present in, and can be transmitted through blood, menstrual flow, virginal fluid, semen, breast milk, pre-seminal fluid [8], all persons are at risk of HIV infection, and are therefore potential clients of VCT services. However, since counseling involves confidential dialogue, informed decision making and choice [6,9,10], it is doubtful that infants to middle childhood, though at risk, will be expected to form part of the clients of VCT centers.

As mentioned in the background, the problems confronting voluntary uptake of VCT services in Nigeria and Anambra State are the same problems challenging uptake of routine medical check-up. While medical practitioners generally recommend frequent check-ups based on age, risk factors and current health status, in practice, uptake is largely determined by ignorance/awareness, economic considerations and social influence, especially in developing countries and poor communities. Considering all factors for an against, and compensating for the possible exclusion of infants and middle childhood, this study adopts Sullivan's [11] first recommendation of once every 3 years to set a rational assumption (a benchmark) that one needs to attend a VCT center counseling and testing at least once in 3 years considering the susceptibility of the general population of Anambra State to HIV/AIDS.

Invariably, this benchmark/rational assumption implies that one third of the population of Anambra State are expected to attend VCT centers for uptake of services each year. This approximates to 33% expected annual client flow at VCT centers as a reasonable response to prevailing risk of HIV/AIDS.

Accordingly, the average client flow rate of 1.89% reported by the VCT centers in Anambra State for the period 2006 - 2011 can be further tested using the following hypothesis:

There is a significant relationship between the frequency of client flow at VCT centers and the at-risk population of Anambra State as to establish VCT centers as effective 'gateways' to HIV/AIDS prevention and care services in Anambra State.

Applying Chi-square Test of Significance ($X^2 = \sum (fo - fe)^2 / fe$) to 1.89% recorded client flow rate as observed value, and 33% client flow as expected value, we have the following test result: $X^2 = 6411531.70$.

Accordingly, X^2 calculated is 6,411,531.70, while X^2 given is @ df 4 ($p < .05$) is 9.49. Hence, X^2 calculated is greater than X^2 table given. Therefore, we reject the Null Hypothesis in line with the decision rule. Accordingly therefore, there is no significance relationship between the frequency of client flow at the VCT centers and the at-risk population of Anambra State. This indicates that VCT centers were not effective gateways to HIV/AIDS prevention, care and support services in Anambra State for the period under study.

Discussion

The apprehension earlier indicated in the statement of problem, that hinging uptake of VCT services on client-initiative and locating the center within existing health facilities, though well-intentioned, may stifle client flow, has been proven to be correct. For the period under study, VCT centers in Anambra State were not effective 'gateways' or entry-points to all other HIV/AIDS services. This finding has many more evidences substantiating it.

Our finding is in tandem with scanty VCT client flow widely recorded in other parts of Nigeria and abroad. GhAIN [12] reported that from 2004 to April 2007, only 480,000 Nigerians were counseled and tested, of which 88,000 (18.33%) were secured through specially organized Mobile Counseling and Testing (MCT) sessions. By April 2007, Anambra State had counseled and tested about 79,339 clients, which is about 16.52% of the said 480,000 Nigerians so far counseled and tested. If Anambra State recording VCT average annual client flow rate of 1.89% contributed 16.52% of Nigerians counseled and tested, it proves that VCT centers in other States were far less effective gateways. In Ethiopia, utilization of HIV testing services had been 5.1%, increasing to 12.1% by year 2008 [13]. This utilization rate includes all HIV testing from all sources, and not only testing from VCT centers. Globally, WHO [14] reported that coverage of HIV testing services remains poor especially in low and middle income countries where only 10% of person that need VCT have access to the service.

Table 1 shows that during the period of our study, there were 117 VCT centers in Anambra State. From ANSACA record, as at 2011, there were 530 VCT counselors rendering services at the 117 VCT centers in the State. Using the 2011 figure of 83,305 clients counseled (Table 6), it implies that, on the average, each VCT center was

patronized by 712 clients throughout the year; 60 clients in a month; and 3 clients in a day. For individual counselors, it implies that each counselor attended to 157 clients throughout the year; 13 clients per month; and 0.6 clients per day, using a 22 working day calendar. This shows a gross under-utilization of the VCT centers and the trained and certified counselors arising from low client flow.

The total number of clients pre-test counseled in 2006 was 67,449. This figure, all things being equal, is supposed to have increased the following year 2007 owing to increase in population, increase in awareness about HIV/AIDS risk, and increasing spread of information about the availability of VCT services. Instead, the number fell to 54,854 in 2007. Similarly, the total number of clients pre-test counseled in 2009 was 107,922, but instead of increasing in subsequent years, it fell to 101,789 in 2010 and further fell to 83,305 in 2011. This pattern of 'fluctuating decline' indicates that VCT centers were not effectively playing their role in catchment of clients as first port of call for clients in the State.

Implied in the notion of 'gateway' is VCT centers' expected role as referral points to other services. In 2006, of the 9,243 clients that tested positive to HIV, 6,082 (65.80%) were referred while a whopping 3,161 (34.20%) were not referred to other services. In 2007, of the 6,173 clients that tested HIV positive, 5,115 (83.35%) were referred while 1,022 (16.55%) were not referred to other services. If these figures are compared with those who were medically referred to the VCT center from other services (17,992 in 2006; 13,396 in 2007), it would appear that a 'cross-referral' was occurring between VCT service and other services. This casts doubt on the notion of VCT service as the 'gateway referral' point.

To what factors can we attribute this low client flows at VCT centers? HIV/AIDS is perceived so negatively that intense stigma is attached to it. Odimegwu, et al [15] found a directly inverse relationship between the intensity of negative perception/stigma against HIV/AIDS and likelihood of uptake of VCT services in Nigeria. Fear of negative test result keep many people away from accessing counseling and testing, not only for HIV/AIDS, but for all stigmatized diseases and diseases perceived to have unwanted terminal outcome such as cancer. Esan et al [16] found fear of test results as one of the barriers limiting students of the College of Health Sciences from accessing Periodic Medical Examination (PME). If such category of health practitioners can harbor fear of PME or its test results, how much more ordinary people harbouring fear of unwanted test result for HIV/AIDS.

VCT and all other HIV/AIDS program aligned to Western Orthodox Medicine face stiff competition for client from many other Traditional, Complementary and Alternative Medicine (TCAM) practitioners who provide assorted HIV/AIDS services in Nigeria. Onifade, et al [17] reports of use of traditional herbal remedies some of which were validated for potency. Jegede [18] reports of use of traditional religious rituals as possible healing techniques in HIV/AIDS control in Nigeria. Claims of Christian faith healing of HIV/AIDS in Nigeria have been widely reported [19].

Yet another factor contributing to low, VCT client flow is the increasing number of persons who access other platforms for HIV/AIDS education and HIV testing even within Western orthodox health facilities including:

- Mandatory HIV testing for consummation of marriages especially by church organizations.
- Routine HIV education and testing in ante-natal care for preventing mother-to-child transmission of HIV/AIDS.
- Mandatory testing for all blood donors, organ donors and all surgical procedures.
- Routine HIV education and testing in the assessment and management of STIs.
- Mandatory HIV testing for recruitment and periodic medical assessment of military personnel.
- Diagnostic requirement for persons who show signs and symptoms consistent with HIV-related diseases or AIDS to aid clinical diagnosis and management including Tuberculosis [14].

The VCT centers operating in Anambra State (and in Nigeria as well) are actually copies of American-model VCT. This is actually a foreign policy transfer. But it is difficult to transfer also the surrounding and accompanying American conditions on which the model was designed and which enable it to work in America. Twum [20] calls these surrounding and accompanying conditions “policy linkages”. Hence, such American-model VCT runs into serious problem of implementation in Nigeria’s health care delivery system which Saka et al [21] described as “weak and fragile”. Poor client flow at VCT centers in Anambra State is one of the inevitable ugly manifestations of inappropriate foreign ‘copying’.

Conclusion

For the period under study, VCT service was not an effective ‘gateway’ in the control of HIV/AIDS in Anambra State. The service did not generate adequate client flow to feed other HIV/AIDS control programs designed to depend on it. This leakage in effectiveness and efficiency must have impacted negatively on other HIV/AIDS control programs, and invariably, constituted a draw-back on overall HIV/AIDS response in Anambra State.

Recommendation

1. Anambra State, and indeed Nigeria, should effect a paradigm shift from the policy and concept of Voluntary Counseling and Testing (VCT) to **Universal Counseling and Testing (UCT)** in order to align properly with the status of national emergency declared on HIV/AIDS by Nigeria [22]. In detail, this UCT should contain the following cardinal thrusts:

- a. Shift emphasis to provider-initiated counseling and testing with focus on group-counseling, mass-counseling, media-based counseling, electronic counseling (e-counseling) and mobile outreach sessions.
- b. Expand the scope of routine HIV testing which covers Ante-natal Clinics (ANC) and Sexually Transmitted Infections (STIs) to also include: (i) all purposes for certification of health and medical fitness, employment and educational admission inclusive; (ii) Issuance of vehicle driving licence (for the same reason that Blood Group (BG) is indicated on motor driving licence.
- c. Expand the scope of mandatory HIV testing which covers blood donation, organ donation, all surgical procedures and

government consummated marriages to also include:

- All health care providers having direct contact with patients;
 - All first-aid care providers, and all field staff of emergency response agencies;
 - All participants in sports competitions warranting bodily contact and open injuries.
- d. HIV/AIDS counseling and testing should be un-bundled as one common package so that clients who seek testing only can access the service without the repercussion of exclusion from other services such as enlistment for Anti Retroviral Therapy (ART).

e. Liberalize the location of UCT centers to include other appropriate public places with high client catchment potential such as government secretariats, schools and universities, markets and motor-parks, as well as airports and seaports.

2. Organize short refresher orientation for existing trained and certified VCT counselors to adapt them to the new paradigm of UCT.

3. Adopt the use of lay counselors as volunteers to augment UCT services in areas of shortfall and hard-to-reach locations.

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