



## Assessment of Health Facilities Delivering HIV Services among Patients in Bonny, South-South Nigeria

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### Authors' contributions

*This work was carried out in collaboration between both authors. Author AJO made substantial contribution to the conceptualization and design, acquisition of data, analysis and interpretation of data. Author ONA drafted the article and both authors listed played an important role in revising the manuscript for intellectual content. Both authors provided final approval of the version to be published and are accountable for all aspects of the work. Both authors read and approved the final manuscript.*

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### ABSTRACT

**Background:** The growing spread of HIV and AIDS among the people of Bonny Kingdom and capacity of medical facilities and service providers to respond to the dire situation have long posed public health concern of immeasurable proportion right from the inception of the Ibani-Se HIV/AIDS Baseline Survey Initiative in 2006 to the implementation of a three-year (2008-2011) intervention programme and thereafter. The impact of the provision of ART and other medical services related to HIV on the quality of care and satisfaction of all, HIV and non-HIV patients is unknown, and any available evidence is limited and arguable. The survey sought to know the number of health facility in the locality, the services they offer and most importantly the number of qualified personnel in such health facilities.

**Methods:** A standardized questionnaire was designed for facility assessment to measure the capacity of health facilities to undertake VCT and ART services. The survey was conducted in sixteen (16) health facilities; fourteen (14) public and two (2) private health facilities located within Bonny town and in the creeks. In each facility, the manager and health providers were surveyed,

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with at least one provider selected from the HIV/AIDS department; 10 randomly selected persons in the Outpatients Department/Unit including 5 from the HIV/AIDS services were interviewed. A standard health facility assessment checklist was developed to measure the quality of care, capacity of providers, developmental and training needs. Others included conformity to standard of practice and quality of medical equipment. Data was entered with Census and Survey Processing System (CSPRO) and exported to SPSS or Stata for analysis.

**Results:** Of the sixteen health facilities, only seven provided both VCT and PMTCT services (Abalamabia health centre, Comprehensive health centre, NLNG RA Hospital, General Hospital, Finima health centre, Good shepherd Health medical lab and Chanel clinic) while one (Island Medical lab) provided VCT services; the others provided neither of the two services. Although, there are fairly adequate number and distribution of health facilities in the LGA, utilization of the general health services was found to have improved when compared to the previous survey. However, lack of structured unit for the provision of VCT and PMTCT services, specifically trained and designated counselors; and poorly motivated public healthcare providers have given rise to concerns about poor access of rural dwellers and inequitable distribution of the few available services, particularly to people most in need.

**Conclusion:** Implications of this survey were highlighted for a more effective HIV prevention and control programme for wide coverage.

*Keywords: HIV/AIDS; Ibani-Se; survey.*

## 1. INTRODUCTION

HIV/AIDS remains a critical public health issue in Sub Saharan Africa. In 2007, UNAIDS estimates reported 33 million and more people living with HIV in the world. Two thirds (67%) of them were of the Sub Saharan Africa [1,2]. Nigeria is the most populous country in Africa with an estimated population of over 193 million people 2006 population census [3]. It is a Federal Republic comprising of 36 States, a Federal Capital Territory (FCT) Abuja, and has 774 Local Government Areas. Nigeria's first case of AIDS was diagnosed in 1986, and since then, the HIV and AIDS epidemic has continued to spread and attract due attention. While there have been some fluctuations, the overall picture is that of significant increase over time. The national HIV sero-prevalence level, obtained through sentinel survey of antenatal care attendees, increased from 1.8 percent in 1991 to 5.8 percent in 2001 and then declined to 5.0 percent in 2003 and further to 4.4 percent in 2005. This decline was followed by a recent rise to 4.6 percent in 2008 and a decline to 4.1 percent in 2010. The HIV prevalence rate in Rivers state in 2003 was 6.6%, this decreased to 5.4% in 2005, increased to 7.3% in 2008 and decreased to 6% in 2010. Between 2003 and 2008 Bonny Island consistently maintained a higher prevalence rate than the state average with a prevalence rate of 8.3% in 2003, 6.0% in 2005 and 8.4% in 2008. The prevalence rate in 2010 was found to be 5.9% which fell below the state average for the first time nine years. With an estimated 3.1

million people living with HIV/AIDS in Nigeria, in 2017, the country has the second largest burden of HIV/AIDS in Africa though there has been a reduction to 1.4% in the prevalence [4].

With this current reduction in the prevalence however, most health services in Africa are not adequately equipped to confront the HIV/AIDS epidemic [5,6]. This explains why HIV infection occurs more often in a general context of health system crisis and underutilization of health services [7]. The 1987 Bamako initiative for primary healthcare aimed at strengthening the geographical, financial and cultural accessibility of care by the population. However, most of the studies conducted in the continent show that access to care and the performance of health facilities remain low [8-10].

Initially, antiretroviral treatment (ART) was only available for few patients in few health facilities located mainly in urban areas. With the support of governments, associations of persons living with HIV/AIDS (PLWHA), multilateral, bilateral and private donors, the number of PLWHA who have access to ART has increased dramatically since 2003. As of December 2007, an estimated 3 million people in low- and middle-income countries were receiving antiretroviral drugs. They represented 31% of those needing the medications, and benefited from a 45% increase in the number of beneficiaries over 2006 [1].

There are many challenges in successfully scaling-up ART, ensuring access to care and reorienting service delivery towards chronic

disease care. In many studies, insufficient human resources are often cited as the most important obstacle to an adequate access to care and a successful treatment scale-up [11-15]. In the past decade, patient satisfaction has become an important performance measure and outcome of healthcare [16-18]. Quality of care and the resulting patient satisfaction influence care seeking behavior and determine the demand for health services. If patients are dissatisfied with the availability and quality of care they receive, they may not adhere to treatment regimen, or they may fail to attend follow-up visits [15,19]. For patients suffering from HIV/AIDS in particular (as well as other diseases like tuberculosis), adherence to regimen and strict follow up schedules play a central role in treatment success. Therefore, the quality of care and patient satisfaction underpin the success of public health policies in enhancing access to care, especially for policies targeted at promoting access to ART.

Weak and overloaded health systems as well threaten the quality of care and patient satisfaction levels, which can, in turn, seriously lessen the chances of successfully confronting AIDS [15].

The growing spread of HIV and AIDS among the people of Bonny Kingdom and the capacity of medical facilities and service providers to respond to the dire situation have long posed huge public health concern since the inception of the Ibani-Se HIV/AIDS Baseline Survey Initiative in 2006 to the implementation of a three-year (2008-2011) intervention programme, and thereafter. The impact of the provision of ART and other medical services related to HIV on the quality of care and satisfaction of all, HIV and non-HIV patients is scarcely known, and any available evidence is limited and arguable. The survey therefore sought to know the number of health facility in the locality offering HIV services, and the number of qualified personnel in such health facilities. The study was also designed to guide the redesign and implementation of a more effective programme to respond to the HIV/AIDS situation in Bonny Kingdom and to mitigate their impact on the people.

## **2. MATERIALS AND METHODS**

### **2.1 Study Framework**

The research was a quantitative, facility-based survey of health facilities in Bonny Local

Government Area of River State, South-south, Nigeria to assess the capacity of the medical facilities to offer HIV counseling and testing and antiretroviral therapy. The assessment was done using a well-structure, standardized questionnaire.

### **2.2 Study Setting**

The survey was conducted in sixteen (16) health facilities; fourteen (14) public and two (2) private health facilities located within Bonny town and in the creeks.

Bonny Island has been an important trading centre from the 16<sup>th</sup> century and this is reflected in the complex ethnic mix of its people. The major indigenous ethnic group is the Ibani, who trace their origins to a section of the Ndoki ethnic group. The Kingdom of Bonny has a long well established history including periods of conflict with the British (e.g. in the 1850). Bonny Island is located on the coast of Rivers State, occupying a distance of 2.72 sq. km. along the eastern coastal line of the Niger delta area in southern Nigeria. It is a traditional Kingdom characterized by simple rural life with an estimated 30,000 indigenous Ibani people.

However, with the sitting of the gas plant (some \$ 30 Billion investment in oil terminals and natural liquid gas production), Nigerians of 'all walks of life' from other tribes, and professional foreign expatriate staff employed by the company have settled in, either on permanent or transient bases.

### **2.3 Data Collection**

The fieldwork commenced immediately after the training on the 27<sup>th</sup> – 29<sup>th</sup> of September, 2011. The fieldwork was conducted via interview schedule with identified eligible respondents at various health facilities and the required information collated using standardized questionnaire. In each facility, the manager and health providers were surveyed, one provider at least selected from the HIV/AIDS department/section; 10 randomly selected persons in the Outpatients Department including 5 from the HIV/AIDS services were interviewed. A standard health facility assessment checklist was developed to measure the quality of care, capacity of providers, developmental and training needs. Others included conformity to standard of practice and quality of medical equipment [21].

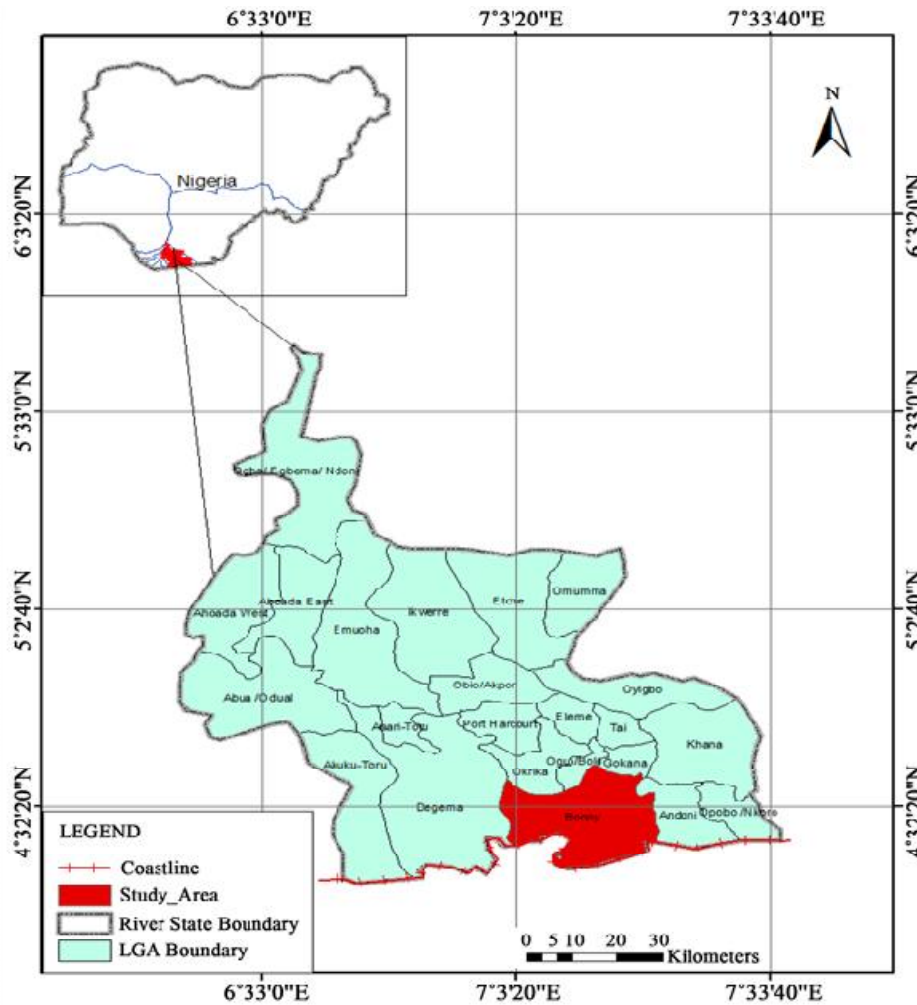


Fig. 1. Map of rivers state showing Bonny local government area

Source: [https://en.wikipedia.org/wiki/kingdom\\_of\\_Bonny](https://en.wikipedia.org/wiki/kingdom_of_Bonny) [20]

## 2.4 Data Processing and Analysis

Data entry was contracted to an identified independent data entry specialist who recruited and trained data entry clerks. Data was entered with CPro and exported to SPSS or Stata for analysis. The data was cleaned and checked for completeness by generating initial frequency tables. The results are presented using relevant tables, charts, figures and graphs.

## 3. RESULTS AND DISCUSSION

### 3.1 Health Facilities and HIV-Related Services Offered

From the Table 1, nine of the facilities offer pre and post counseling while eight render

voluntary HIV testing and counseling. Few numbers of facilities rendered referral services (four) and other related services (two) which are essential in the care and management of the epidemic.

### 3.2 Related Infrastructures, Equipment and Personnel

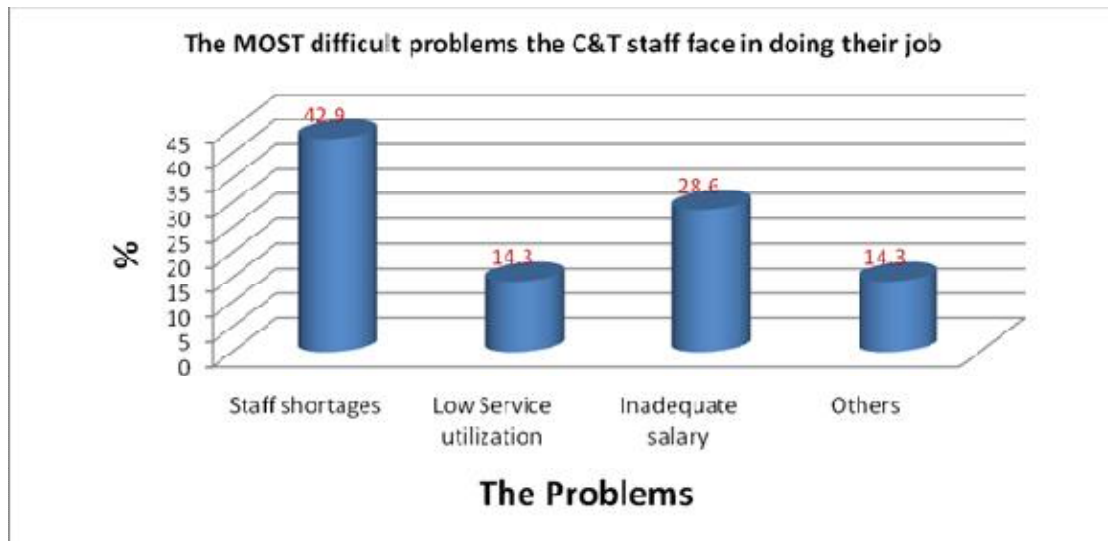
Electricity supply was available in the health centers within all the facilities in both the villages and the creeks. The facilities were always equipped with sharps disposal containers, surgical gloves and reagents though not all the facilities had regular water supply. Observably, there were regular cleaning and waste management system in most of the facilities, testing agents and reagents (Table 2).

**Table 1. Facilities and services rendered in Bonny LGA**

Services	Yes		No		Total	
	No.	%	No.	%	No.	%
Pre-test counseling	9	100.0	0	0.0	9	100.0
Post-test counseling	9	100.0	0	0.0	9	100.0
Ongoing supportive counseling (supportive or prevention)	7	77.8	2	22.2	9	100.0
Voluntary HIV testing	8	88.9	1	11.1	9	100.0
HIV diagnostic testing without counseling	5	55.6	4	44.4	9	100.0
HIV diagnostic testing with counseling	8	100.0	0	0.0	8	100.0
Bereavement counseling	4	50.0	4	50.0	8	100.0
C&T in ANC/MCH	7	87.5	1	12.5	8	100.0
C&T in the context of clinical care (e.g. STI or TB clinic)	7	87.5	1	12.5	8	100.0
Referral to care/support/treatment	4	57.1	3	42.9	7	100.0
Others	2	100.0	0	0.0	2	100.0

**Table 2. Infrastructure and supplies in health facilities in Bonny LGA**

What are available or easily accessible?	Observed		Reported, but not seen		Not available		Total	
	No.	%	No.	%	No.	%	No.	%
Means of visual privacy	9	100	0	0.0	0	0.0	9	100.0
Auditory privacy	8	100	0	0.0	0	0.0	8	100.0
Running/clean water	7	87.5	1	12.5	0	0.0	8	100.0
Hand washing items	8	100	0	0.0	0	0.0	8	100.0
Sharps disposal container	8	100	0	0.0	0	0.0	8	100.0
Waste management system	8	100	0	0.0	0	0.0	8	100.0
Surgical gloves	8	88.9	1	11.1	0	0.0	9	100.0
IEC materials for clients	6	75	2	25	8	100	16	200.0
Supplies for blood draw	8	100	0	0.0	0	0.0	8	100.0
Test kits	8	100	0	0.0	0	0.0	8	100.0
Testing reagents	8	100	0	0.0	0	0.0	8	100.0



**Chart 1. Problems faced by counseling and testing staff in health facilities in Bonny**

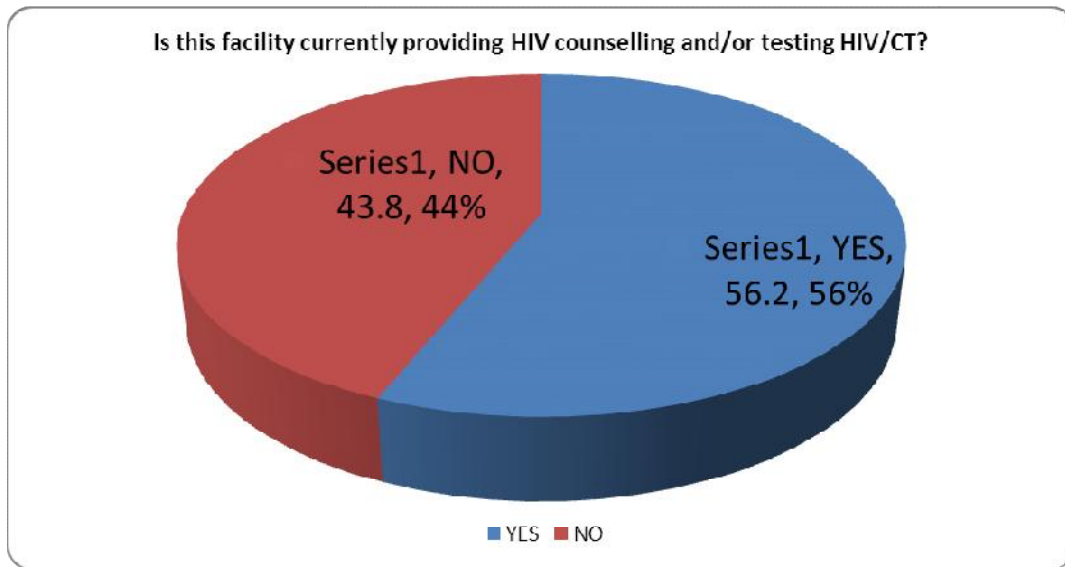


Chart 2. Facilities providing VCT and PMTC services in Bonny



Chart 3. Sources of referrals to UPTH

The survey findings revealed sterilizing equipment were available in the facilities as well as testing agents and re-agents. Most of the facilities (94%) visited were all generally clean in nature and very well-organized though periodic flooding was observed in Bonny Comprehensive Health centre, which was flooded due to drainage problems.

Survey findings also revealed that some of the staff working on VCT does it as their primary

duty. This includes 26 doctors, 3 clinical officers, 27 nurses, 4 community nurses, 26 nurses' midwives, 10 counselors, 10 lab technicians and 1 pharmacist.

For PMTCT, the doctors and nurses provided PMTCT services, none of the facilities had trained counselors on site and the nurses and doctors had to add counseling as an additional duty. Only the NLNG reported a formal mechanism in place to provide updates to staff

for information on counseling and testing /PMTCT for staff. Generally, most of the respondents complained about shortage of staff, low service utilization, low salary and others as shown in the Chart 1.

### **3.3 Voluntary Counseling and Testing Services**

It was found that there were VCT services available in the parts of the locality. The healthcare providers however complained, inadequate salary, staff shortage and low public demand for VCT and it was the consensus that this must be due to a low level of awareness about this service despite the high level of awareness about HIV/AIDS issues amongst community members.

Of the sixteen health facilities, only seven provided both VCT and PMTCT services (Abalamabia health centre, Comprehensive health centre, NLNG RA Hospital, General Hospital, Finima health centre, Good shepherd Health medical lab and Chanel clinic) while one (Island Medical lab) provided VCT services while the others provided neither of the two services. As shown in the Chart 2.

#### **3.3.1 Medical records system in VCT**

About 78% of the facilities surveyed had in place a special record system for VCT. No separate forms were being used to record data and information was usually captured in the patients' case notes. Most about 89% of the facilities also compile VCT records on a quarterly base and send to local AIDS coordinator and other agents.

#### **3.3.2 Provider attitude to VCT**

All the healthcare providers interviewed believed that VCT was a very important service to help prevent the spread of HIV and dispel the myths surrounding the disease amongst community members.

#### **3.3.3 Test protocol applied**

Most of the facilities surveyed use ELISA or method for testing. However, NLNG hospital reported using Western blot for confirmation of diagnosis in addition to the ELISA and rapid testing method. All other facilities use only *Determine*, but NLNG hospital uses *Determine* and *Immuno-comb* for the first test, *Genie II* for

the second test and *Western Blot* for confirmation.

#### **3.3.4 National guidelines used**

All the care providers interviewed seem to know the existence of the National VCT guidelines, however, only few of them possessed a copy or had a copy on site. Only the NLNG hospital had a set of written procedures/protocol for both pre and posttest counseling and this was shared with members of staff.

#### **3.3.5 Quality assurance**

Only the Channels clinic did not appear to have any method of quality assurance, Finima PHC and Bonny GH claimed to send samples to Braithwaite Memorial Specialist Hospital, PH whilst NLNG hospital sent samples to Nigeria Institute of Medical Research, Lagos.

Common problems faced by staff providing VCT were mainly lack of supplies, lack of training, inadequate facilities and poor working environment but the only complaint from the NLNG hospital was low service utilization.

### **3.4 Referral Services**

Generally, Bonny Island has inadequate referral services for people living with HIV/AIDS and the providers usually refer positive people to University of Portharcourt Teaching Hospital both of which are located in Port Harcourt. This, some of the providers felt made it unattractive for people to access the VCT services and made it also difficult for positive people to access care and support services (Chart 3).

The referral system has improved from the past though some of the providers don't know exactly what services are available and where. There was no known support group that positive people could join. None of the facilities had a referral list and also none had a register showing previous referrals that had been made. This meant those patients were not usually followed up.

### **3.5 Antenatal Services**

Of the sixteen health facilities surveyed, ten health facilities had functional antenatal services. The survey aimed to know the number of antenatal follow-up visit, examination room, delivery room and facilities, availability of trained professionals and traditional birth attendants

(TBA) and lastly the various tests underwent by pregnant women.

Over 90% of respondents reported that antenatal registration attracts a fee while cost of various laboratory test range from ₦500 – ₦1500. Apart from cost of registration, patients also pay for STI management, laboratory fees and vitamin supplements in both the public and private health facilities. The health facilities reported offering voluntary counseling and testing, and other services for the prevention of mother to child transmission of HIV/AIDS. The health facilities reported the availability of national guideline for the management of sexually transmitted infection (STI) and HIV/AIDS, however only 20% of the health facilities were able to show such guideline.

### **3.6 Maternity Services**

In all the health facilities surveyed, 24 hours maternity services were available. Even when the clients came for antenatal services, some of the clients still deliver at home with the assistance of relatives or traditional birth attendants because the traditional birth attendants don't in most cases go on outreaches to the interior villages. However, most of the health facilities visited offer HIV test and counseling, couple counseling, family planning and OVC sections. Centers also provide caesarean section services and conduct health talks on clinic days.

### **3.7 PMTCT Services**

There were PMTCT services available in all health facilities visited offering a range of services. These include VCT, family planning, couple counseling and health talks.

#### **3.7.1 PMTCT in ANC**

All Respondents from all facilities reported providing most of the services related to PMTCT services according to national guideline. None provided PCR services, while only NLNG provide paediatrics AIDS care. Bonny GH and Channel clinic reported not providing infant formula.

#### **3.7.2 National guidelines, counseling and referrals**

Respondents know of the existence of National Guidelines on PMTCT but none was available on any of the sites. Group counseling was done for the pregnant women during antenatal visits and

this was usually done as part of the health talk. Infant feeding counseling, Nutrition counseling and condoms are commonly offered in all the facilities. None of the facilities reported providing PMTCT outreach services in the community. None of the facilities provide referral services and none had a referral directory or register.

#### **3.7.3 PMTCT in maternity**

All the facilities have their maternity staff involved in PMTCT; elective cesaerean section is available for positive mothers. HIV counseling and testing is offered at all facilities. Paediatrics AIDS care is provided on site at the NLNG hospital and reported to be available on demand at Channel clinic. All the facilities have guidelines for staff members regarding confidentiality of the status of their patients.

#### **3.7.4 Medical records system**

Most of the facilities have a special record system for PMTCT services in the maternity wards.

#### **3.7.5 Attitude to PMTCT**

Over Ninety percent of the facilities surveyed reported that PMTCT was important in order to reduce the number of babies born with HIV. About 62 percent of the facilities reported that commencing all components of PMTCT in their facility was a major priority. Reasons given by the respondents for PMTCT services not being provided range from lack of funding, lack of expertise to staff shortages.

Apart from lack of funding, poor demand and lack of space in the facilities were also very commonly given reasons for not providing this service. One respondent from the rural areas actually told us that “there were no pregnant women in her village”, while others reported that they did not have enough space in their own facilities - this was confirmed when the researchers visited their facilities.

### **3.8 Discussion**

The health facilities survey showed strength in areas of cleanliness, availability of testing kits and other ANC supplies while areas of weakness includes manpower, funding, compliance with National guidelines and adequate quality assurance. Although, there are fairly adequate number and distribution of health facilities in the



LGA, but utilization of the general health services was found to have improved compared to the previous survey. There has also been a tremendous improvement within the various Health facilities in the LGA which makes them now able to deliver essential intervention such as the provision of VCT and PMTCT.

In general, HIV/AIDS service provisions are generally high in all the facilities within the LGA when compared with the previous survey, with all facilities providing VCT and PMTCT. Though there have been concerns from the rural dwellers about their poor access and inequitable distribution of the few available services, particularly to people most in need due to low outreach by health workers and other trained officers. The public health care providers are poorly motivated with few of the facilities having designated counselors specifically trained to provide neither the services nor a structured unit for the provision of VCT and PMTCT services. The implication is that the provision of VCT and PMTCT services though have improved but have not had it deserved attention in the prevention and control of HIV/AIDS.

Provider attitude was found to be good as most of the providers showed an eagerness to provide VCT/PMTCT services. The providers interviewed showed in-depth knowledge of VCT/PMTCT issues but most requested for further training in order to improve their knowledge service provision. Many of the healthcare providers though had knowledge of the National Guideline on VCT and PMTCT, however, some facilities did not have protocols that were being followed, and it appears that service providers were using whatever knowledge they had on HIV/AIDS issues with little attention being paid to supervision and quality control.

The survey reveals that many of the facilities have adequate information, education and communication materials for their clients with scanty wall posters in one or two facilities and this could contribute to the improved uptake of these services. However, signposts in the facilities surveyed only showed the name of the facility and there was nothing available to show that VCT/PMTCT services were being provided in the centers. The availability of IEC materials and conspicuous signposts in health facilities should be an indicator of institutional commitment to the promotion of VCT and PMTCT services to the community.

Client flow into ANC was very tremendous and most of the facilities reported that the mothers do return to the facilities to give birth though there were some few cases where mothers gave birth at home due to distance and some other financial reasons. This was more common in the public health facilities when compared with the private ones. This consequently led to some missed opportunities to complement PMTCT services with VCT for sero-positive mothers and loss to follow-up. Though referral services were found to be generally low in the area; on the comparative perspective with the previous, it is observed to have improved and follow up of patients was given more attention. This could be owed to the collaboration between referral centers and health facilities in the LGA. Also, issues highlighted are the difficult terrain and poverty which has contributed significantly to the aversion to use referral service outside the LGA. This has led to poor use of the few available services available in the LGA because of people perception of difficulty in getting help if they knew their status.

#### **4. CONCLUSION**

The implementation of the three-year (2008-2011) HIV/AIDS intervention programme resulting from Iban-Se HIV/AIDS Baseline Survey Initiative in 2006 was effective in reducing the burden of the epidemic in this vulnerable population. There is therefore tremendous improvement within the various Health facilities in the LGA which makes them now able to deliver essential intervention packages such as the provision of VCT and PMTCT.

However, there are apparent concerns from the rural dwellers about their poor access and inequitable distribution of the few available services, particularly to people most in need due to low outreach by health workers and other trained officers. The public health care providers are poorly motivated with few of the facilities having designated counselors specifically trained to provide neither the services nor a structured unit for the provision of VCT and PMTCT services. The implication is that the provision of VCT and PMTCT services though have improved but have not had it deserved attention in the prevention and control of HIV/AIDS especially to poor and very vulnerable in the area. It is therefore necessary to take cognizance of all militating factors and address aforementioned concerns when planning and strengthening the existing policy to produce a strategic programme of greater impact.

Key policy recommendations following the survey are as follows:

- A key priority area in HIV/AIDS service provision on the island will be the training and retraining of healthcare providers. They need to be trained on the various counselling areas and testing protocols with emphasis on confidentiality.
- Traditional birth attendants should be included amongst those to be trained. Some women both in the urban and rural areas still end up utilizing their services and as such they must be trained on VCT and PMTCT issues.
- There is a need for regular monitoring and evaluation exercise to help keep trends of progress or regress within a time frame.
- Training on data collection methods and medical records keeping is also very important.
- There is the need to procure and distribute the National Guidelines on VCT and PMTCT to all the facilities. This will help to improve the quality of services provided and Attention should also be paid to quality control in service provision
- HIV/AIDS awareness messages through the media, community mobilization, outreach programs and the use of IEC materials are highly recommended. This will go a long way to further increase the knowledge of community members, reduce the level of stigma and discrimination associated with HIV and improve the uptake of HIV/AIDS care and support services. IEC materials need to be provided in all the health facilities especially in the waiting areas.
- The referral system on the island needs to be strengthened. For effective coordination referral lists or directories for care and support services need to developed and distributed. Develop referral register/ protocol and distribute as well as, identify, select and train referral focal persons.

### **CONSENT**

Respondents' informed written consent was sought before administering questionnaire. In other words, respondents were at liberty not to participate in the research process.

### **ETHICAL APPROVAL**

In compliance with ethical guidelines in line with surveys of this nature, approval was obtained

from River State Hospital Management Board and Association of Health Providers and Medical Laboratories.

### **DISCLAIMER**

This manuscript was presented in a Conference. Conference name: 7<sup>th</sup> International Conference on HIV/AIDS, STDs and STIs March 18-19, 2019 New York, USA. Available:<https://d2cax41o7ahm5l.cloudfront.net/cs/pdfs/std-conference-2019-43167-scientific-program84458.pdf>

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### **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

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