International Journal of Trend in Scientific Research and Development (IJTSRD)
Volume 10 Issue 1, Jan-Feb 2026 Available Online: www.ijtsrd.com e-ISSN: 2456 – 6470

# Availability and Quality of Sexually Transmitted Infections / Human Immune Deficiency Syndrome Services in Fako Division Southwest Region of Cameroon

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## ABSTRACT

Human Immune-Deficiency Virus and Acquired Immune Deficiency Syndrome (HIV/AIDS) pandemic is one of the most demanding public health and social challenge to health care systems worldwide over the last 25 years. It has the capacity to produce psychosocial disturbances in both the sufferer and the community at large. This study sought to examine the availability and quality of services for Sexually Transmitted Infections / Human Immune Deficiency Syndrome in the Limbe Regional hospital and Buea Regional hospital annex in Fako division in the Southwest region of Cameroon. The study employed a survey design and more specifically a sequential exploratory mixed-methods approach. The sample size for the study was 220 HIV/AIDS patients receiving treatment in these health facilities. Triangulation also applied in analyzing the data by combining qualitative and quantitative approaches with the support of SPSS for quantitative analysis and Atlas Ti for qualitative analysis. The findings unfolded that a proportion of 90 (94.7%) of participants attended antenatal clinic, 191 (92.35%) were regularly tested on HIV, 198 (94.3%) had done CD4 test, 205 (96.2%) attended day care / UPEC services and 168 (79.6%) were taking antiretroviral therapy. This statistical trend by ricochet supports the availability of STIs / HIV services. Reasons for noncompliance to STIs / HIV services were for the main ones the perception that one is not sick or is not actually sick as no symptom of illness is being felt, adjustment of life style with abstinence to sex, poverty, ignorance, sporadic failure in lab equipment, ignorance, lack of awareness, no identification document to express citizenship and ease movement, inconsistent service, some health personnel not welcoming, and inconsistent supply of drugs. Findings of this study would contribute to the limited services on the reproductive health of HIV/AIDS infected patients in Cameroon, and may serve as a clinical reference to HIV care providers who may use the findings of this study to offer comprehensive care to their patients. This study is also expected to provide basis for policy makers and stakeholders to enact sustainable policies to boost the management of people living with HIV/AIDS and improve on their wellbeing and socio-economic development.

***How to cite this paper:*** Suka Caroline Bih | Robert Mbe Akoko | Fongot Kini-Yen Kinni | Nana Celestin "Availability and Quality of Sexually Transmitted Infections / Human Immune Deficiency Syndrome Services in Fako Division Southwest Region of Cameroon" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-10 | Issue-1, February 2026, pp.122-135, URL: www.ijtsrd.com/papers/ijtsrd99972.pdf

IJTSRD99972



***KEYWORDS:*** *STIs / HIV, Services, Quality, Fako Division, Cameroon.*

## INTRODUCTION

Sexually transmitted infections (STIs) / HIV and AIDS continue to be a significant public health problem in Cameroon and the world at large. STIs have been described as "hidden epidemics," comprising 5 of the top 10 most frequently reported diseases in the United States. An estimated 12 million

new cases of STIs occur each year in the U.S., which has the highest rate among all developed countries. In the developing world, STIs are an even greater public health problem as the second leading cause of healthy life loss among women between 15 and 44 years of age. In sub-Saharan Africa HIV/AIDS pandemic remains a major public health challenge. Cameroon suffers from a generalized HIV pandemic, with an estimated average HIV prevalence of 5.5% in the adult population (15–49 years of age) and up to 10.7% and 11.9% in adult women, in the most affected areas (the Northwest, Southwest and East regions and the capital city of Yaounde´) (Demographic health survey in Cameroon, 2005). Cameroon has one of the larger HIV pandemic, with an estimated half million adults living with HIV (WHO, 2008). In Cameroon, AIDS is the most common cause of mortality, accounting for 21% of deaths (WHO, 2004). Consequences of STIs occur primarily in women, children and adolescents especially among racial/ethnic minority groups. Adverse outcomes of pregnancy due to untreated STIs include neonatal ophthalmia, neonatal pneumonia, physical and mental developmental disabilities, and fatal death from congenital syphilis (WHO, 2004).

Should effective clinical management of STIs include screening of sexually active individuals with appropriate laboratory tests, providing definitive diagnosis and treatment, client-centred risk reduction and education, and evaluation and treatment of partners? Is screening of asymptomatic patients of utmost importance in order to prevent sequelae? Screening for STIs among sexually active women, especially pregnant women, is essential since roughly 70% of chlamydial infections and 50% of gonococcal infections are asymptomatic in this population (UNAIDS / WHO, 2005). Unfortunately, the barriers to effective STI prevention are multiple, including the biological characteristics of STIs, lack of public awareness regarding STIs, inadequate training of health professionals, and socio-cultural norms related to sexuality that can lead to misperception of recognized risk and consequences.

**Background**

In 2003, the HIV/AIDS prevalence rate in Cameroon stood at 5.5% and the most affected age group was 15-49 years. According to statistics from the Ministry of Public Health, in 2008, Cameroon had 543 000 people living with HIV including 45,000 children and 300,000 women. 39,000 deaths were linked to AIDS and 305,000 children were orphaned by AIDS (Demographic health survey, 2011).

HIV/AIDS accelerates the natural history of some reproductive illnesses, increases the severity of others and adversely affects the ability to become pregnant. Moreover, infection with HIV affects the sexual health and wellbeing of both men and women. Knowledge of HIV status is essential for tailoring reproductive health care. Women are more affected than men within the age group 15-49 years and the peak of infection is in the age group of 25-29 years for females and 35-39 years for men. STIs/HIV and AIDS services include counseling and testing, treatment, care and prevention. HIV testing and counseling is the entry point to HIV-related care and support, including antiretroviral therapy (Demographic health survey, 2011). According to a demographic health Survey in 2011 by the Ministry of Public Health, the Southwest Region ranked fourth with a high prevalence rate of 7.9 amongst the ten Regions in Cameroon. This high prevalence rate might be as a result of the fact that the Region is situated on the coast of the Atlantic Ocean. It shares long international frontiers with Nigeria and Equatorial Guinea. It is therefore a frontier Region with a lot of cross frontier activities. It equally has a lot of important tourist attractions such as the Limbe beach, the Muaneguba twin lakes, the Cameroon Mountain, the Mbakwasupe fly over just to name but these. More so, the presence of the University with a student population of a highly sexual age group attracts people from far into the Region.

The main economic activity of the Region is farming most of which is mechanized by the Cameroon development Cooperation (CDC). This is the biggest plantation holder in the country and thus attracts human labor from all over the country. These plantation workers called upon to live in camps with high levels of promiscuity which very much favor the spread of STIs/ HIV infection. There are a lot of economic activities going on in the Region with commercial activities in towns like Kumba, Tiko, Ekondo Titi dealing in goods mainly from the neighboring country Nigeria. The Southwest Region has the refinery in the country and this is the terminal where the whole country converges to get fuel. It thus brings in hundreds of long distance truck drivers on a weekly basis thus exposing this riverine community to a higher risk of HIV and other STIs. Presently other projects of road maintenance like the Kumba-Mundemba and the Kumba-Mamfe roads are also a call for concern. These projects have brought a lot of non-resident workers and this to an extent promotes promiscuity in the communities that host such projects (Demographic health survey, 2011).

In the Southwest Region there are 18 Health Districts and 166 Health areas. Each health area is equipped at least with a unit charged with the Prevention of Mother to Child transmission (PMTCT) and also carries out voluntary counseling and testing (VCT). Each of the Health Districts has at least a treatment center and other health facilities that offer HIV/AIDS prevention and management services (UPEC). Such services include but not limited to counseling, testing, treatment, care and prevention of STIs/HIV (Demographic health survey, 2011).

**Problem statement**

HIV/AIDS continues to be a significant challenge to the world. Millions of people worldwide are infected by this virus daily, and thousands die yearly of AIDS-related illnesses, threatening the achievement of the Millennium Development Goals (MDGs) envisaged for 2035. More than 340 million new cases of curable STIs occur annually, and sexually transmitted human papilloma virus (HPV) infection closely associated with cervical cancer – is diagnosed in more than 490 000 women and causes 240 000 deaths every year (WHO, 2004).

In Cameroon, the average prevalence of HIV has risen dramatically during the last two decades, from 0.5% in the early 1990s to 5.3% in 2009 (World Bank, 2011). HIV/AIDS is increasingly regarded as a chronic disease which in turn contributes to the burden of chronic diseases especially in low-income and middle-income countries (Beaglehole *et al.,* 2008). This has led to increase need for reproductive health care and treatment, and it will require different sectors of health and social care to work much more closely together.

According to a demographic health survey carried out in 2011, females of the ages 35-39 and men of this age group are highly affected by this disease with prevalence rates of 10.0 and 5.8 respectively. These individuals form the reproductive age group. Also, the South West Regional Technical Group reported in 2011 that individuals from this age group constituted a great proportion of those who were placed on ARV indicative of the fact that they constitute the majority of infected persons (Demographic health survey, 2011).

For all these reasons, it is essential that those providing STIs / HIV services have the knowledge and skills to manage the sexual and reproductive health of persons living with HIV /AIDS. Due to the stigma and discrimination often attached to HIV, it is particularly important that health service providers be able to protect the reproductive rights of persons living with HIV. These rights include having access to sexual and reproductive health services and sex education, being able to choose a partner, deciding whether to be sexually active or not and deciding freely and responsibly the number, spacing and timing of children. Women also have the right to make these decisions free of discrimination, coercion and violence (United Nations, 1994).

Although the impact of STIs / HIV services on reproductive health care and quality of life in HIV / AIDS affected people is reasonably well documented in developed and high income countries, there are limited studies on this aspect in primary care HIV/AIDS treatment settings in Cameroon. It is against this backdrop that this study was conducted.

**Aim**

This study sought to examine the availability and quality of services for Sexually Transmitted Infections / Human Immune Deficiency Syndrome in the Limbe Regional hospital and Buea Regional hospital annex in Fako division in the Southwest region of Cameroon.

**Materials and methods**

**Research design**

It was a cross-sectional study that employed survey design with a sequential exploratory mixed-methods approach. Data were collected using a semi-structured questionnaire whereby structured questions capture the perception of participants on the availability and quality of services while open ended questions give them room to justify their stance. The study is cross-sectional because it makes just an appraisal or snapshot of the current situation.

**Area of Study**

The study was carried in Cameroon, in Fako division of the Southwest region. Cameroon is a sub-Saharan central African country with over 28 million inhabitants and made up of ten regions. Fako Division lies at the foot of Mount Cameroon. It covers a surface area of 2093 km square and an average altitude of 2833 m with 534854 inhabitants and the average yearly temperature is about 26.4°C around the coast area. In terms of health, the Southwest Region of Cameroon possesses a regional delegation of public health, training schools for medical and health staffs and health supply centers. The Southwest Region comprises 19 health districts as follows: Buea, Limbe, Ekondo Titi, Kumba, Mamfe, Mbonge, Ekondpo, Fontem, Eyumojock, Bakassi, Muyoka, Nguti, Mundemba, Tombel, Wabane, Konye, Tiko, Bangem and Akwaya. This study was carried out in the Limbe and Buea Health Districts and was a hospital-based study conducted in Buea and Limbe regional hospitals.

The target population comprised of People Living With HIV / AIDS (PLWHA) who visited the Limbe

Regional Hospital and Buea regional Hospital annex. Another category of study group were PLWHA who belong to support group organization in Limbe Health District. The study population was made up of patients of reproductive age who legally are able to consent to participate in the study. During the period of study (December 2012 to February 2013), 4820 patients visited and received treatment at the Limbe Regional Hospital and Buea regional hospital annex. Hence, 220 patients were recruited from that population for the study.

**Sample and Sampling Procedures**

A total of 220 volunteer respondents who are HIV positive and were receiving treatment in the Limbe Regional Hospital and Buea Regional hospital annex treatment centers were enrolled into the study. Sample size was calculated using the maximum sample size at 95% confidence interval.

**Sample Size Calculation**

Sample size was estimated using sample calculation for one proportion with the support of Epi Info 6.04d (CDC, 2001) as explained by Nana (2018).

$$n=\frac{NZ^2P(1-P)}{d^2(N-1)+Z^2P(1-P)}$$

Where N=total population, Z= Z value corresponding to the confidence level, d= absolute precision, P=expected proportion in the population, n effective=n*design effect.

In the context of this study, the following parameters were used to estimate the sample size:

| | |
|---|---|
| Size of the population | 4820 |
| Desired precision | 5% |
| Expected prevalence | 90% |
| Confident level | 95% |
| Design effect | 2.0% (convenience sampling) |

First of all we have to situate P within 95% CI using the formula below.

$$P-(Z_{\alpha/2})\sqrt{pq/n} < P < P+(Z_{\alpha/2})\sqrt{pq/n}$$

Where:

- P= prevalence
- n= sample size at a given expected prevalence (here 90%). Considering this proportion, a confidence level of 95%, a design effect of 2 because convenient sampling is used.
- q= 1-P
- $Z_{\alpha/2}$ =level of significance = 1.96.

The conjectured proportion within 95% Confidence interval will then be obtained.

0.87 < 0.90 <0.92

Secondly, we can now calculate the sample size for the ranged values of P at 95% CI

Using the proportion range and applying the formula above, the estimated sample sizes with the lower and upper bound at 95% CI is as follows:

For a total study population of 4820, the estimated sample size is 217 < 276 < 343.

Following the research objectives, consecutive sampling method was employed to collect data for this study, based on the availability of patients in the treatment unit. That is, patients who happened to be available at the time of data collection and were willing to participate for the study were recruited.

**Inclusion and Exclusion Criteria**

Eligibility to participate in the study was limited to PLWHA who are of the reproductive age group, have had a child/children and have been registered and receiving HIV/AIDS services at the Limbe Regional hospital and Buea regional Hospital annex. Children and any patients from other centers coming to take treatment at the Limbe hospital and Buea regional Hospital annex for reasons of drug shortage or on transit were not included in this study.

**Instrument for Data Collection**

In this study, a semi-structured questionnaire was used for data collection.

**Administration of Instruments**

Data collection was carried out from December 2012 to February 2013 in HIV/AIDS treatment centers of Limbe Regional Hospital and Buea regional Hospital annex. After having approached the respondents and explained the aim of the study and its implications, a letter introducing the project was served alongside the questionnaire with an informed assent form. Those interested to participate were required to sign the form before participating. For those respondents who were unable to read or write; the researcher worked through the questionnaires with them.

**Validity and Reliability of Instrument**

Reliability and validity are bases of confidence in research findings (Hammersley, 1990). Validity refers to the measurement of what is supposed to be measured and is difficult to establish. The construct, content and concurrent validity was assured by pre-testing with a small sample at the Mbingo hospital Mutengene with similar characteristics before final administration in the Limbe Regional hospital and Buea regional hospital annex. Therefore, validity and reliability of the instruments were ensured through pre-test or a trial run (pilot study), to determine whether the questionnaires were clearly worded and free from major biases and whether they solicited the

type of information envisioned. In this dimension, revisions of some questionnaire items were made. Problems arising in some questions not explicit to respondents were also adjusted to their understanding as requested.

**Ethical consideration**

The researcher obtained a letter of authorization to carry out research from the department of Sociology and Anthropology and an administrative clearance from the Regional Delegation of Public Health for the Southwest where the study sites are based. Informed written assent was obtained from each participant. Confidentiality and privacy were ensured. Names of respondents were not included on the questionnaires; participants were identified with study numbers. Respondents were adequately counseled before being interviewed. Respondents were also made to understand that participation in the research was entirely voluntary and that it was their choice to participate or not. They were also made to understand that if any one of them chooses to participate or not, all the services received at the treatment center continues and nothing will change.

**Data Management and Analysis**

**Quantitative analysis**

Data entry and clean up followed a systematic procedure. Quantitative data was entered using EpiData Version 3.1 (EpiData Association, Odense Denmark, 2008) and analyzed using the Statistical Package for Social Sciences (SPSS) Standard version, Release 21.0 (IBM Inc. 2012). EpiData has an in-built consistency and validation checks that helps in minimizing entry errors during data entry. After data entry, variables were explored to identify questionable entries, inconsistency in responses and to make the necessary corrections (Nana, 2018). During this stage, the fate of missing data was defined. Some were set as missing and some recoded depending on the statistical requirements. Exploratory statistics continued with further consistency, data range and validation checks in SPSS version 21.0 (IBM Inc., 2012). The verification of questionable entries was equally facilitated by the fact that all copies of the data collection instrument were given codes and which codes were also entered into the data base and could help refer the instrument for eventual cross-checking. These structured questions made of categorical variables were analyzed using frequency and percentage.

**Qualitative analysis**

The study employed a sequential exploratory mixed-method approach whereby beside a semi-structured questionnaire dealing essentially with close-ended questions, qualitative information were collected via the open-ended question on the semi-structured questionnaire. Responses from open-ended questions were compiled into a primary document. The abstraction of these qualitative textual data was reduced through the systematic process of thematic analysis whereby concepts or ideas were grouped under umbrella terms or key words with the support of Atlas.Ti 5.2 software (Atlas.ti Scientific Software Development GmbH, Berlin, Germany). The first stage consists deciding on the level of analysis. At this level, single words, clauses and sets of words or phrases were coded. The researcher did not initially decide on how many different concepts to code and for this reason, a pre-defined or interactive set of concepts / categories was not initially developed and concepts or umbrella terms emerged from the data. The primary documents of textual data were coded for every independent idea as it emerged from the data and the interpretation of findings was dominantly qualitative. Findings were organized in code--quotation tables whereby themes or codes were clearly explained or described, followed by their related quotations.

The code-quotation table ensures the objectivity and reliability of qualitative analysis in the sense that if code / concepts / umbrella terms and their descriptions can be subjective to relative error, quotations are grounded, real or factual, thus compensating for potential biases (Nana, 2018).

**Findings**

**Socio-Demographic Characteristics**

**Sex**

Of the 220 people sampled, 178 (80.9%) were females and 42 (19.1%) were males.

**Occupation**

Most of the people who suffered from HIV were semi-skilled workers 116 (52.7%), followed by farmers 36 (16.4%), and then skilled workers 28 (12.7%).

**Religion**

From the findings, most of the HIV patients were Christians 207 (94.5%), followed by those who did not belong to any religion 7 (3.2%), Islam 4 (1.8%) and Traditional religion / Kamitism last 1 (0.5%).

**Income**

Majority (60.9%) had an income of less than 30,000 Frs a month, 22.3% between 30,001- 50,000 Frs, 9.5% in the range of 50,001- 100,000 Frs and only 3.9% of the patients have an income above 100,000 Frs a month.

**Level of school attained**

Out of the 219 who effectively answered this question, 18 (8.2%) had no formal education, 98

(44.7%) attended primary, 77(35.2%) secondary and 26 (11.9%) post-secondary.

**Number of children**

In average, they had 3 children with a median at 2, 25th Percentile at 1 and the 75th Percentile at 3. One of them had up to 18 children and 29 (13.4%) of them had no child.

**Marital status**

Majority (38%) were married, 33% single, 14% were widows, 7% divorced, 5% cohabiting and 3% widowers.

**Language proficiency**

Of the 220 people sampled, 20.1% could read English very well, 20.5% could read well, 24.2% could read averagely, 19.6% poorly while up to 15.5% of the people could not read English at all. 17.4% could speak English very well, 24.3% well, 33% averagely, 18.3% poorly and 6.9% could not speak English at all. Out of this sample, only 2.7% could read French very well, 6.4% well, 15.5% averagely, 16.4% poorly and up to 58.9% could not read French at all. Only, 3.7% could speak French very well, 6.5% well, 18.1% averagely, 27.7% poorly and majority 54% could not speak French at all.

**Availability and Quality STI/HIV Services**

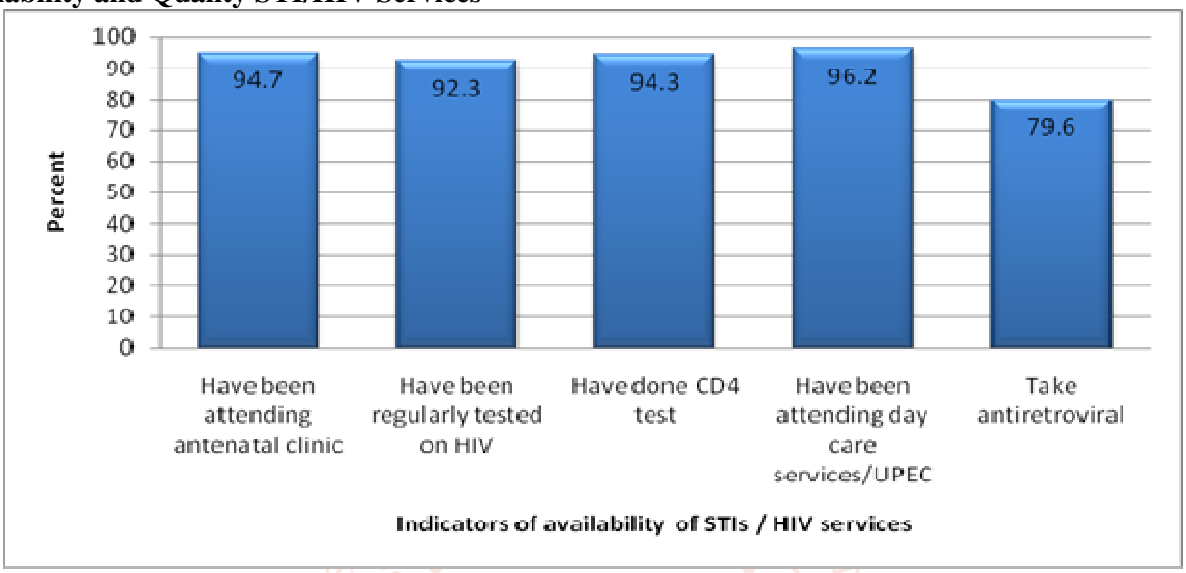


**Figure 1: Indicators of availability of STIs / HIV services**

From figure 1 above, 90 (94.7%) of pregnant women attended antenatal clinic, 191 (92.35%) were regularly tested on HIV, 198 (94.3%) had done CD4 test, 205 (96.2%) attended day care/UPEC services and 168 (79.6%) were taking antiretroviral therapy. Some of the patients were not taking antiretroviral because their CD4 was still high (Greater than 350).

**Table 1: distribution of HIV patients with respect to care attendance**

| | Frequency | Valid Percent | Cumulative Percent |
|---|---|---|---|
| Once a month | 185 | 91.6 | 91.6 |
| Once every two months | 16 | 7.9 | 99.5 |
| Once every three months | 1 | .5 | 100.0 |
| Total | 202 | 100.0 | |

Care attendance was good (table 1) as they generally attend one a month 91.6% (185).

**Table 2: Reasons for noncompliance to services**

| Questions | Code | Code Description | Grounding | Quotation |
|---|---|---|---|---|
| Reasons for not attending day care services | High CD4 level | Patient not yet on ART | 2 | 'Have not started taking ART because level of CD4 is high'[Female HIV patient, aged 32] 'my CD4 is high'[Female HIV patient, aged 26] |
| | Patient already | Person knows he is a patient already | 2 | 'because I know I am already a patient'[Female HIV patient, aged 35] 'because I have it already'[Female HIV patient, aged 38] |

| | | | | |
|---|---|---|---|---|
| Reason why not doing laboratory test for any of STIs | Not sick | Patient believe is not sick | 3 | 'I am not sick'[Female HIV patient, aged 38]<br>'because I am fine and no sick'[Male HIV patient, aged 38] |
| | No symptoms | Does not have signs and symptoms of STIs | 2 | 'not feeling any symptoms'[Female HIV patient, aged 49]<br>'no signs and symptoms of any'[Female HIV patient, aged 40] |
| | Abstinence | Abstinence to sexual activities | 1 | 'because I am not having sex'[Female HIV patient, aged 38] |
| | Poverty | Financial difficulties | 1 | 'lack of money'[Female HIV patient, aged 40] |
| | No disease | Patients believes had never had any other STIs | 1 | 'because I have never had a disease'[Female HIV patient, aged 36]<br>'because I think I am not infected by other STIs'[Male HIV patient, aged 45] |
| Reasons why not doing regular clinical checkups | Poverty | Financial difficulties | 21 | 'Done only one time because of financial difficulties'[Male HIV patient, aged 45]<br>'No finance'[Female HIV patient, aged 37]<br>'No money for CD4'[Female HIV patient, aged 39]<br>'Was sick hence used money for treatment'[Female HIV patient, aged 35] |
| | Status | Already HIV patient | 6 | *'Because I am an HIV patient already' Female HIV patient, aged 33]*<br>*'Have been taking drugs'[Female HIV patient, aged 40]*<br>*'Since positive, I have not done test again'[Female HIV patient, aged 50]* |
| | No sick | Have the feeling of not being sick | 4 | 'because of no sick'[Male HIV patient, aged 38]<br>*'I know that I am not sick'[Female HIV patient, aged 49]*<br>'because I feel I am fine'[Female HIV patient, aged 29] |
| | Negligence | Patient neglects to do checkups | 3 | 'negligence'[Female HIV patient, aged 29]<br>*'I forget at times'[Female HIV patient]*<br>*'because of so many things that occupied me'[Female HIV patient, aged 30]* |
| | Logistic problem | Lab facilities or machine not regularly operational | 2 | 'Because machine was bad'[Female HIV patient, aged 49] |
| | Not aware | Patient was not told to do regular checkups | 2 | 'I was not told so it is now that I will do it'[Female HIV patient, aged 27]<br>'I have not been told to do CD4'[Female HIV patient, aged 28] |
| | Recently diagnosed | Just diagnosed | 2 | 'just diagnosed HIV'[Female HIV patient, aged 39]<br>*'because I was diagnosed not long ago'[Female HIV patient, aged 29]* |
| | Ignorance | Does not know the importance of regular check-up | 1 | 'ignorance'[Female HIV patient] |
| | No reason | No reason | 1 | *'no reason'[Female HIV patient, aged 50]* |
| | Identification papers | No identity card | 1 | 'no ID card'[Female HIV patient, aged 46] |

| | | | | |
|---|---|---|---|---|
| Reasons for Doing follow up together with partner | Health | Improve on health condition | 32 | 'In order for us to have good health'[Male HIV patient, aged 45]<br>'To know whose HIV status is high so as to regulate'[Female HIV patient, aged 39]<br>'In order to know our status and live healthily'[Female HIV patient, aged 29]<br>'It is important for both of us'[Male HIV patient, aged 50] |
| | Same status(concordant couples) | Both partners are positive | 10 | 'we are all positive'[Female HIV patient, aged 39]<br>'he is also positive'[Female HIV patient, aged 19] |
| | Verify partner's Status | To know the status of partner | 4 | 'Because I wanted to know the status of my wife' Male HIV patient, aged 42]<br>'to see if he has and we do follow up'[Female HIV patient, aged 38] |
| | Protection | To protect each other against reinfection | 6 | 'To secure ourselves' Female HIV patient, aged 23]<br>'so that he will not infect me'[Female HIV patient, aged 32] |
| Reasons why not satisfied with the services rendered | Rude | They are sometimes offensive | 5 | 'At times they are rude'[Male HIV patient, aged 49]<br>'they give us lectures, attend to us , but sometimes they are a little harsh'[Female HIV patient, aged 33]<br>'they are rude'[Female HIV patient, aged 38] |
| | Irregular on service | When in need of doctor he is not on seat | 3 | 'never see doctor when you have a problem'[Male HIV patient, aged 54]<br>'they take good care but sometimes they do not put correct information in my file'[Male HIV patient, aged 43] |
| | Inadequate health information | Patients not well-Informed on other health problems, so too for very young babies | 3 | 'babies who are young like mine, their information are inadequate'[Female HIV patient, aged 29]<br>'because I have not been asked to do other STI tests'[Female HIV patient, aged 44] |
| | Health | No improvement in weight of patient | 2 | 'I am not improving on weight'[Female HIV patient, aged 37]<br>'because I want to have children again'[Female HIV patient, aged 38] |
| | Stock out | Drugs not available at times | 1 | 'drugs are not available sometimes'[Female HIV patient, aged 36] |
| | Time factor | Patients at times stay for too before being served | 1 | 'Free drugs but sometimes we stay for too long'[Female HIV patient, aged 29] |
| | Logistics | Non availability of equipment at times | 1 | 'because sometimes the CD4 control machine is not available'[Female HIV patient] |
| | Amenorrhea | No menses since treatment started | 1 | 'I have not menstruated since 5 years today since I started taking drugs'[Female HIV patient, aged 35] |
| | Packaging | Drugs should be packaged in one container | 1 | 'drugs should be given in one container'[Male HIV patient, aged 51] |

Many reasons were given for noncompliance to services as presented in table 2.

**Reasons for not attending day care services:** Patients did not attend day care service not yet on ART and person awareness of being a patient already.

**Reason why not doing laboratory test for any of STIs:** The reasons here were patient believing not to be sick, patient not have signs and symptoms of STIs, abstinence to sexual activities, financial difficulties, patients believe had never had any other STIs.

**Reasons why not doing regular clinical checkups:** The reasons were financial difficulties, the perception that one is not sick, negligence, the believe that one is already HIV patient, lab facilities or machine not regularly operational, was not told to regularly checkup, just diagnosed, not knowing the importance of regular check-up, the feeling of not being sick, no identity card, and just for no reason.

**Reasons why not doing follow up together with partner: The reasons ranged from p**atient not told to do follow up with partner / lack of awareness; partner does not have the disease, patient is single, husband is dead, not living together, partner refuses, partner does not accept status, partner is absent, partner has not disclosed status, partner has never done HIV test, lost the wife and no reason.

**Reasons why not satisfied with the services rendered:** Patients complained of health personnel being sometimes offensive, doctor not on seat when needed, patients not well-informed on other health problems so too for very young babies, no improvement in the weight of patient, drugs not available at times, patients at times stay for too before being served, non-availability of equipment at times, no menses since treatment started, and drugs needed to be packaged in one container.

**Table 3: Reasons for compliance to services**

| Questions | Code | Code Description | Grounding | Quotation |
|---|---|---|---|---|
| Reasons for regular clinical checkups | Level of CD4 | To verify if level of CD4 is high or low | 81 | 'To see if CD4 count is high or low'[Female HIV patient, aged 39]<br>'To know how cells are increasing'[Female HIV patient, aged 50]<br>'To see how CD4 is improving'[Female HIV patient, aged 41]<br>'Recommendation to do CD4 from hospital'[Male HIV patient, aged 34] |
| | Health | To ensure one is in good health | 58 | 'to make sure am fine aside of the HIV virus' Female HIV patient, aged 33]<br>'to be continuously in good health' Male HIV patient, aged 42]<br>'To know my health status'[Female HIV patient, aged 29]<br>'to know if CD4 is increasing, if I am healthy'[Female HIV patient, aged 46] |
| | Examination. | to diagnose any complain | 16 | 'In order that if there is a complain it can be diagnosed'[female HIV patient, aged 52]<br>'Due to rendezvous given'[Male HIV patient, aged 50]<br>'To test the level of inside being' Female HIV patient, aged 32]<br>'To know how my system is'[Male HIV patient, aged 35]<br>'To check to see if my kidneys are ok'[Male HIV patient, aged 45] |
| | Obligatory | Everyone must do clinical checkup | 12 | 'it is an obligation'[Male HIV patient, aged 44]<br>'it is obligatory every six months'[Male HIV patient, aged 60]<br>'follow rules and regulations for checkup'[Male HIV patient, aged 55]<br>'it is important'[Female HIV patient, aged 40] |

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| | Drug effectiveness | To see the effectiveness of the drugs | 6 | 'To see how medicine reacts'[Female HIV patient, aged 34]<br>'To see if drug corresponds with my system'[Female HIV patient, aged 43]<br>'to see if drug is working well'[Female HIV patient, aged 44] |
| | Take drugs correctly | To verify if drugs are taken as prescribed. | 2 | 'to know if I am taking my drugs well or not'[Female HIV patient, aged 40] |
| | Counseling | To get advice and be educated more on health care | 2 | 'because I want them to teach me more'[Female HIV patient, aged 34] |
| | precautions | Not to infect another person or children | 2 | 'To prevent my baby'[Female HIV patient, aged 31]<br>'To prevent my baby from infection'[Female HIV patient, aged 30] |
| | Collect drugs | To collect drugs. | 1 | 'to take medicines always'[Female HIV patient, aged 49] |
| Reasons for doing follow up together with partner | Health | Improve on health condition | 32 | 'In order for us to have good health'[Male HIV patient, aged 45]<br>'To know whose HIV status is high so as to regulate'[Female HIV patient, aged 39]<br>'In order to know our status and live healthily'[Female HIV patient, aged 29]<br>'It is important for both of us'[Male HIV patient, aged 50] |
| | Same status (concordant couples) | Both partners are positive | 10 | 'we are all positive'[Female HIV patient, aged 39]<br>'he is also positive'[Female HIV patient, aged 19] |
| | Verify partner's Status | To know the status of partner | 4 | 'Because I wanted to know the status of my wife' Male HIV patient, aged 42]<br>'to see if he has and we do follow up'[Female HIV patient, aged 38] |
| | Protection | To protect each other against reinfection | 6 | 'To secure ourselves' Female HIV patient, aged 23]<br>'so that he will not infect me'[Female HIV patient, aged 32] |
| | Good | Service rendered is satisfactory | 119 | 'Take good care'[Female HIV patient, aged 52]<br>'Take good care'[Female HIV patient, aged 50]<br>'Services are very good'[Female HIV patient, aged 41]<br>'The way I have been giving treatment, I am satisfied'[Female HIV patient, aged 39]<br>'The nurses are polite and serve me always' Male HIV patient, aged 42]<br>'take good care when I have any health problem, they do follow up'[Female HIV patient, aged 40] |
| | Healthy | Improved health condition | 41 | 'because I am healthy'[Male HIV patient, aged 45]<br>'Since I have been taking drugs, I am no longer sick'[Female HIV patient, aged 49] |

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| | | | | 'I respond to treatment' Female HIV patient, aged 33]<br>'I do not feel pains again'[Female HIV patient, aged 53]<br>'because I feel more healthier, have improved on weight'[Female HIV patient, aged 35] |
| | Counseling | Give medical advise | 24 | 'they take care and encourage us not to be discouraged in life'[Female HIV patient, aged 30]<br>'If they were not, some of us would have been dead. They counsel us before we do test'[Female HIV patient, aged 30]<br>'they help us to understand certain things, and they help us in certain problems'[Female HIV patient, aged 50]<br>'whenever I come here I pick up one or two things that can help me maintain my life'[Female HIV patient, aged 40]<br>'their lectures and follow up helps a lot'[Female HIV patient, aged 30] |
| | Drug availability/ Free | Drugs are always available | 19 | 'drugs always available, nurses are friendly'[Female HIV patient, aged 34]<br>'Receives me even if I am late for my drugs, also can give me medicine for the next month that I will not be around'[Female HIV patient, aged 44]<br>'they provide drugs'[Female HIV patient, aged 40] |
| | Drug effectiveness | Patients are healthy when taking drugs. | 8 | 'Drugs are effective'[Female HIV patient, aged 39]<br>'the drugs are sustainable'[Male HIV patient, aged 52]<br>'The drugs work well'[Female HIV patient, aged 38] |
| | Infant therapy | Gives medicine to the baby immediately after birth. | 2 | 'because drugs are given to the newly born immediately after delivery' Female HIV patient, aged 32]<br>'because they have kept my children alive'[Female HIV patient, aged 24] |
| | Delivery | Delivered safely | 1 | 'I am satisfied because of safe delivery'[Female HIV patient, aged 30] |

As far as compliance to services was concerned, patients gave the following reasons:

**Reasons for regular clinical checkups**: The motivations for regular checkups were to verify if level of CD4 is high or low, to ensure one is in good health, to diagnose any complain, the believe that everyone must do clinical checkup, to see the effectiveness of the drugs, to verify if drugs are taken as prescribed, to get advice and be educated more on health care, not to infect another person or children, and to collect drugs.

**Reasons for doing follow up together with partner**: They ranged from improve health condition, both partners being positive, to know the status of partner, to protect each other against reinfection.

**Reasons why satisfied with the services rendered**: Patients simply argued that service rendered was satisfactory, followed by improved health condition, medical advice given, drugs always available, patients are healthy when taking drugs, gives medicine to the baby immediately after birth, and delivered safely.

**Discussion**

In order to assess the availability of STIs / HIV services, the following were taken into consideration (attendance of antenatal clinic, regularly tested for HIV, has done CD4 count test; attend day care / UPEC services, ART consumption). Findings from this study showed that a strong majority 90 (94.7%) of pregnant women attended antenatal clinic, 191 (92.35%) were regularly tested on HIV, 198 (94.3%) had done CD4 test, 205 (96.2%) attended day care/UPEC services and 168 (79.6%) were taking antiretroviral therapy. This is in agreement with Cohan (2003) who points that a successful mother-to-child transmission prevention program involves attendance at an antenatal clinic, HIV testing and counseling, availability of antiretroviral drugs, a return visit for disclosure of HIV test results, acceptance of antiretroviral treatment and correct administration to the woman and infant, and agreement and support to formula-feed the infant if formula is safe and available.

More so, in many African countries, widespread testing of women for HIV infection remains an elusive goal, with their primary access to HIV testing and education occurring at antenatal care (ANC) visits and through Prevention of Mother-to-Child Transmission (PMTCT) programs (Population Council, 2009). This also implies there is effectiveness in services as many women are using these services.

On the other hand, the findings also revealed that, some women never attended ANC as such did not do their HIV test. These persons were counselled and tested in the labour room before delivery. This is in line with (Bulterys *et al*., 2004; Chersich *et al*., 2006; Taha *et al*., 2003), who points that offering HIV testing and counseling around the time of labour or shortly thereafter has been shown to be feasible for the women who have not accessed HIV testing during pregnancy.

Furthermore, findings from the study also showed that men were involved in PMTCT though many did not attend this service. This is in conformity with findings of studies conducted in Cameroon, Ivory Coast, Burkina Faso, and other African countries (Dietcha et al, 2009, Rutenberg et al 2008), that the percentage of men participating in ANC/PMTCT activities has not exceeded 18.0%, since the Men as Partners (MAP) program was instituted in 2004.

Among the patients who attended day care/ UPEC services, 91% attended once a month, 7.1% every two months 0.5% once every three months. Indicative of the fact that majority of the patients were eligible for ART and were receiving it. And only very few were not eligible (that is their CD4 count was above 350) such patients were placed on diet and they came for checkup regularly. As highlighted by these health personnel during interviews "Those who are not eligible for treatment, we enroll them into care and put them in the pre - HARRT register, you do follow up every six months".

In conclusion STIs/HIV/AIDS services are available in all the treatment centers in the region and are of standard. All the centers have a counseling unit, laboratory for testing of the diseases, availability of a CD4 machine, PMTCT unit which is attached to antenatal clinic, a day-care center where these patients' visits on daily basis based on appointments to collect free drugs for treatment of HIV/AIDS, the availability of trained personnel at the center to follow up the patients. At the center there is a doctor specifically for HIV patients, a midwife, a trained nurse who attends to them at the family planning unit, a gynecologist who handles their reproductive problems and follows them up during pregnancy.

**Conclusion**

The aim of this study was to assess the availability and quality of STIs/HIV/AIDS services on the reproductive health of people living with HIV/AIDS using these services in the Limbe regional hospital and Buea regional hospital annex. It is worth noting that reproductive health problems affects all gender, age and social status but men and women living with HIV are at increased risk of having reproductive health problems for a variety of reasons including less desire to have sex, stigma and discrimination, susceptibility to other STIs which might cause infertility. Despite the above, the regional treatment centers are well equipped with both qualified personnel and equipment. They do proper follow up of clients ensuring that they carryout laboratory tests, do CD4 count test before initiation of antiretroviral treatment. In addition, from findings we realize that most of them take treatment, respondents intended having more children, more babies survived after delivery, majority were tested HIV negative though most of the women delivered vaginally, there were no illnesses often, and most of their mothers did not die during pregnancy and after delivery indicative of the fact that PMTCT program is effective. Furthermore, most patients make use of the available STIs/HIV services. Majority (94%) of pregnant women attended antenatal clinic, (92%) were regularly tested on HIV, (94%) did CD4 test, (96%) attended day care services and (79%) took antiretroviral therapy. Comparatively, the percentage of those utilizing the services through sensitization and consumption of ART to curb the percentage of reproductive health problems to those

who are ignorant about the services is not yet satisfactory. The following reasons are as a result of the above facts: Percentage living with STIs and HIV is still high (34.5%); the effort of the government in sensitizing and provision of ART is not yet enough to meet up with the affected people; some people though sensitized still need repeated education because they are negligent to the services offered to them (contraceptives 54.1%); and poverty still plays a great role in the health situation of the people because sensitization to an infected person in poverty would have little or no impact on his health.

**Recommendations**

- The health service should make provision for a service in the treatment center in charge of the reproductive health of people living with HIV/AIDS.
- There should be the creation of many more treatment centers in the region.
- The nurses in charge of the treatment centers should undergo training on the reproductive health care of these patients in order to follow them up properly especially from time of conception to delivery and postpartum.
- The statistics of other STIs should be well documented just as those of HIV/AIDS.
- The service of a nutritionist should be included in the treatment centers so that he/she would educate the patients on their diet.
- All the treatment centers should encourage the creation of support groups in the centers involving both men and women living with HIV/AIDS as it is a powerful and positive influence and assist families infected by HIV/AIDS in coping with HIV and doing away with stigma and discrimination.
- Within the counseling service, an Anthropologist, a Sociologist or a Clinical Psychologist should be involved as they understand better human behavior towards an illness.
- Similar studies in other African communities especially in Cameroon are required to further educate the society on reproductive health issues.
- **Limitations**
- A major limitation in carrying out this study was the difficulties in convincing the patients to give adequate information especially on other STIs they have suffered from.
- Absence of data on other STIs such as Chlamydia, Syphilis, Gonorrhea, which also has an effect on reproductive health.
- Some of the staff was not well informed on the consequences of HIV on reproductive health as such limited information was obtained from such staff.

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