Human Immunodeficiency Virus (Hiv) Infection Among Medical Outpatients Of Federal Medical Centre, Gombe North Eastern Nigeria

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Citation

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Abstract

Although, recent reports indicated that the world is finally gaining ground against HIV pandemic, the disease has continued to ravage many communities in low income countries. We reviewed HIV infection among medical outpatients of FMC, Gombe with the aim of determining its burden and to identify socio-cultural factors responsible for the persistence of the epidemic. One thousand two hundred and twenty-five patients were managed during the period. Of these, 705 (56.6%) consisting of 263 (37.3%) males and 442 (62.7%) females were HIV positive. Their ages ranged from 19-77years and 17-65years for males and females respectively. The females (32.5 ±8.6years) were younger (p=0.0001) than males (39.1 ±9.5years). HIV was the predominant infection (57.5%) managed with many infected individuals (45.6%) being unemployed. Mean post-treatment CD4+ count in patients on anti-retroviral therapy was higher (p=0.01) than pre-treatment CD4+. Individuals studied suffered from triple burden of communicable and non-communicable diseases, and poverty. There is need for sustenance of HIV prevention strategies at the community level and continued support from international partners to achieve universal anti-retroviral access.

INTRODUCTION

With increasing access to highly active anti-retroviral treatment (HAART) in the last 6 years, many people with the disease in developing countries can now look forward to achieving non-detectable viral loads, relatively normal lives and life spans. However, the number of persons diagnosed newly with HIV and deaths from acquired immune deficiency syndrome (AIDS) and related diseases each year remains the greatest challenge world-wide[1-2]. Although, low income countries are worst hit with the pandemic, the disease also rages in developed countries such as United States of America where it is often overlooked[3].

The Joint United Nations Program on HIV/AIDS (UNAIDS) estimated that 33 million people were living with HIV world-wide, of whom 2.7 million became infected in 2007 and 2 million died from AIDS the same year[4]. Nevertheless, available statistics showed that there were fewer new cases and deaths from the disease in 2007 than previous years[1,5]. The reports suggested that the world is finally gaining ground against the pandemic. In Nigeria, it has been estimated that the prevalence of HIV/AIDS has dropped from 5.8% in 2003 to 3.1% in September, 2009 and about 2.6 million people live with the virus[6]. Similarly, the prevalence rate of the disease has been estimated to have dropped from its peak of 8.2% in 2001 to 4.9% in 2005 in Gombe State, which was one of the worst hit states in Nigeria[7]. However, our experience at FMC, Gombe shows that HIV/AIDS infection still remains the greatest burden and challenge to health care. We therefore, review the prevalence of the disease and social factors fuelling the epidemics among medical outpatients at FMC, Gombe, Nigeria.

MATERIALS AND METHODS

Data of all patients who were managed at the Medical Outpatient Department (MOPD) of FMC Gombe from 1st January to 31st December, 2007 were reviewed. Patients who were seropositive for HIV infection were selected for the study. The laboratory diagnosis was made using simple/rapid HIV immunochromatographic HIV-1 and HIV-2 SD Bioline test kit initially, while Enzyme linked Immunosorbent Assay (ELISA) technique was further employed to confirm positivity. FMC, Gombe is one of the tertiary health care facilities in the Northeastern part of Nigeria. It has bed capacity of 300 and offers both in and outpatients care services. She receives patients mainly from Gombe State with a population of about 2.35 million[8] and

neighbouring states of Adamawa, Bauchi, Borno, Taraba, Yobe and Kano. The hospital is a referral centre for anti-retroviral treatment which is supported by the Federal Ministry of Health of Nigeria, Institute of Human Virology of Nigeria, Gombe State Action Committee on Aids and GHAIN. The hospital also offers prevention of mother to child transmission (PMTCT), voluntary counselling and testing (VCT) and early infant diagnosis (EID) of HIV/AIDS.

Patients case files were retrieved from the Medical Records Department of the hospital and the morbidities during the period under review were studied. Each patient diagnosed with HIV/AIDS has a specially designed proforma wherein information on clinical presentation, date of diagnosis, CD4+ count and other important information were entered. Information extracted from the case records of each patient included age, sex, mode of referral, occupational status, marital status, clinical features and principal diagnosis of the patient. Others included baseline CD4+ and repeat CD4+ count after commencement of HAART treatment. Statistical analysis was performed using the SPSS Version 15. Simple frequency counts and percentages were utilized in the analysis. However, numerical values were presented as mean ± standard deviation and Student t-test was used to compare means of continuous variables. A statistically significant association was taken at $P<0.05$

RESULTS

One thousand two hundred and twenty-five patients consisting of 500 (40.8%) males and 725 (59.2%) females were managed during the period. Of these, 705 (56.6%) patients were found to be HIV positive. This was made up of 263 (37.3%) males and 442 (62.7%) females. Their ages ranged from 19-77years in males and 17-65years in females respectively.

Table 1 shows clinical diagnosis in the patients. Diseases due to infections were the commonest diagnoses in the patients, accounting for 62.2% of all cases. HIV/AIDS either alone or as co-infection with tuberculosis was the predominant infection (57.5%) managed at MOPD of FMC, Gombe in 2007. This was followed by the diseases affecting the cardiovascular system which accounted for 17.1% of all consultations. Diseases of gastrointestinal, endocrine, nervous and renal systems contributed significantly to morbidity among the study group (5.5%, 3.9%, 3.8% and 2.2% respectively). Skin diseases were seen in 1.9% and malignancies in 1.14%.

Mean age of patients with HIV/AIDS was 35.0 ±9.5years while the mean baseline CD4+ count was 294.4cells per cubic millimeter. While 27.9% of the patients presented with a CD4+ count of less than 200 cells per cubic millimetre, 75.6% of the patients had a CD4+ count of less than 350 cells per cubic millimeter. Comparison of patients' baseline CD4+ (313.7 ±195cells per cubic millimeter) with repeat CD4+ (363.3 ±189cells per cubic millimeter) in patients on HAART showed significant (p=0.01) improvement in counts post treatment.

Figure 1

Table 1: Clinical diagnoses among the medical outpatients

Diagnoses	Frequency	Percentage (%)
Infections		
HIV	636	51.9
HIV/TB	69	5.63
PTB	27	2.2
Others	30	2.45
Cardiovascular		
Hypertension	170	13.9
Hypertension/Diabetes	26	2.1
CAD	4	0.33
Others	9	0.73
Gastrointestinal		
Peptic ulcer disease	43	3.51
Chronic liver disease	18	1.47
Others	6	0.49
Nervous system		
Stroke	20	1.63
Anxiety neurosis	12	0.98
Migraine	7	0.57
Others	7	0.57
Endocrine		
Diabetes	46	3.76
Others	2	0.16
Renal	27	2.2
Dermatology	23	1.88
Respiratory	15	1.22
Malignancies	14	1.14
Musculoskeletal	6	0.49
Haematology	4	0.33
Miscellaneous	4	0.33
Total	1225	100

Key: HIV-human immunodeficiency virus, TB-tuberculosis, PTB-pulmonary tuberculosis

CAD-coronary artery disease

Sex differences in age at presentation and CD4+ counts are shown in table 2. The mean age of the females HIV/AIDS patients (32.5 ±8.6years) was significantly (p=0.0001) lower than that of males (39.1 ±9.5years). Although, the mean CD4+ at baseline and repeat after HAART were higher in females than males, the differences were however, not significant.

Figure 2

Table 2: Sex differences in age at presentation and CD4+ counts

Parameter	Male (mean ±SD)	Female (mean ±SD)	p-value
Number	263	442	
Age range (years)	19-77	17-65	
Mean age (years)	39.1 (9.5)	32.5 (8.6)	0.0001*
CD4 (1)	280.3 (164)	302.8 (186)	0.114
CD4 (2)	330.6 (146)	381.7 (208)	0.104

CD4+ T-helper lymphocyte

*statistically significant

Occupational groups of patients who were positive for HIV/AIDS are presented in table 3. The top 5 occupational groups reported by the patients were house wife (27.1%), civil servant (18.6%), unemployed (12.1%), farming (9.4%) and business (8.4%). Medical and health workers accounted for 1.7% the patients. However, a closer look at these individuals showed that many of them (45.6%) were not gainfully employed (house wife, unemployed and student).

Marital status of the patients with HIV/AIDS infection is displayed in table 4. Majority of the patients (65.1%) were married as at the time of presentation. However, 34.9% were unmarried as at the time of diagnosis.

Figure 3

Table 3: Occupational distribution of HIV/AIDS patients

Occupational group	Frequency	Percentage (%)
House wife	191	27.1
Civil servant	131	18.6
Unemployed	85	12.1
Farmer	66	9.4
Business	59	8.4
Artisans	46	6.5
Students	45	6.4
Police/military	35	5.0
Commercial drivers	19	2.7
Self employed	13	1.8
Health workers	12	1.7
Company worker	1	1.4
CSW	1	1.4
Clergy	1	1.4

Key: CSW-commercial sex worker

Figure 4

Table 4: Marital status of HIV/AIDS patients

Marital status (%)	Frequency	Percentage
Married	459	65.1
Single	149	21.1
Widow	71	10.1
Divorced	26	3.7

DISCUSSION

The study showed that HIV/AIDS alone or as co-infection with tuberculosis was the commonest (57.5%) reason for presentation at the Medical Outpatient Department of the hospital in 2007. This may be a reflection of high prevalence of the disease in the communities from where these patients came from and the fact that FMC, Gombe is a designated/referral centre for HAART treatment. Although, the recent epidemiological data in Nigeria (2009 estimates) are suggesting that the HIV/AIDS epidemic has continue to

decline[9], many centres in Nigeria have continue to experience huge morbidity and mortality figures from the disease[11-13]. In addition to above finding in the patients studied, chronic medical diseases including systemic hypertension, diabetes mellitus, cerebrovascular and renal diseases contributed significantly to morbidity in them. Furthermore, many of the patients managed (house wife, unemployed and student) were not gainfully employed. These individuals therefore suffered from triple burden of communicable and non-communicable diseases, and poverty.

The results of our study also showed that the females were more affected and at a younger age than men. This finding is consistent with results of previous studies in Nigeria and other parts of sub-Saharan Africa which showed that women and children are worst hit by HIV/AIDS pandemic[13-15]. Cultural factors in this part of the country may contribute to fuelling HIV/AIDS epidemic among women. Traditionally, women in this environment marry very young between the ages of 15-18 years[16]. More often than not, they are married to older men (trans-generation sex) who likely might have had more sexual partners in the past or many wives. These young girls have little or no sexual health information on the prevention of sexually transmitted diseases (STDs) including HIV/AIDS[17]. In addition, most of these young girls are not economic empowered to take decisions on their own even when they are aware of some issues that affect their health negatively.

Majority of the patients studied were married at the time of presentation which further confirmed heterosexual mode of transmission to be the predominant route of acquisition of this disease in Nigeria[18]. There were no cases of homosexuality among the patients seen. However, a good number of them (34.9%) had no stable relationships (students, widows and divorce).

Many of the patients had advanced HIV/AIDS disease (WHO stage 3 and 4) with very low CD4+ counts and opportunistic infections. In the United States and Europe, HAART treatment is initiated earlier once the CD4+ reaches 350 cells per cubic millimeter[19]. About 75.6% of our patients had a CD4+ count of less than 350 cells per cubic millimeter. Recently, an observational study by Kitalata et al [20] showed that the risk of death is increased by 69% when initiation of therapy is delayed until CD4+ drops to below 350 cells per cubic millimeter. Therefore, early initiation of treatment with anti-retroviral drugs far before CD4+ drops below this level was recommended.

When patients CD4+ counts at baseline were compared with values after HAART treatment, there was improvement in CD4+ post therapy which confirms the efficacy of this treatment if started earlier. However, the challenges of anti-retroviral therapy in our patients include late presentation, poverty and toxic side effects which often led to transient discontinuation of treatment[21-22]. Most of the regimens available to our patients are stavudine based which have a lot of toxic effects compared with regimens based on tenofovir. More importantly, the momentum of support from world partners in the management of HIV/AIDS has begun to wane with various groups suggesting shift of focus from the disease to other areas of health[19, 23]. The fate of millions of patients with HIV/AIDS in low income countries is therefore hanging in the balance as most patients and governments from these countries cannot sustain the cost of care of the disease.

In conclusion, HIV/AIDS is still the major cause of morbidity and death in our environment. Most of the patients are poor and present to health care facilities when the disease is advanced. There is need for sustenance and promotion of HIV/AIDS prevention strategies at the community level in Gombe State. Cultural practices which encourage trans-generation sex between young girls and older men who probably have many sexual partners should be discouraged. These patients need support from government and non-governmental organizations. Indeed, this is the time the international partners should give more support, so that universal access to anti-retroviral drugs will be attained and success achieved so far against the pandemic will not be lost.

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