

## Evaluation of the impact of adherence counselling among clients on anti-retroviral therapy in an approved missionary hospital in Eastern Nigeria.

\*<sup>1</sup>Momoh M. A <sup>1</sup>, Attama A .A, <sup>1</sup>Okonta J.M <sup>2</sup> and Ezugwuorie O J.

Department of Pharmaceutics, Faculty of Pharmaceutical sciences, University of Nigeria, Nsukka

<sup>2</sup>Dept. of Obstetric and Gynaecology, University of Nigeria Teaching Hospital, Enugu

Drug adherence counselling is preferentially integrated in other targeted risk reduction measures, which serve the purposes of sustaining the maintenance of a low HIV risk in the community and avoid regular hospitalisation and drug resistant from non-adherence to the antiretroviral (ART) therapy. Sample was randomly selected from the HIV-infected patients attended the clinic during the study period. Patients were receiving free ART, selected from the first line drugs for at least six months, self-administered their medication, and were mentally sound for this study. Patient physical present with their pill counted and self administer questionnaire. The result highlight on the various factor affecting adherence to ART, such as cost of transport, poor prognosis, cultural value attached to traditional medicines and toxicity of some of the antiretroviral drugs. There is need for effective information on the disease so that the client will know the important of the ARV and the need to adhere to the medication, more centres need to be established so that client need not travel for the services. Emphases should be on the regular adherence counselling as the key to effective utilisation of ART and prevent the possible variant resistance.

**Key words:** antiretroviral, compliance, stigmatization, HIV/AIDS, evaluated.

### INTRODUCTION

No disease has engaged the attention of the world so much as the HIV pandemic. Since the initial description some two decades ago, it has continued to be a source of public health concern. By the end of the year 2005, an estimated 46.1 million people had been living with HIV/AIDS all over the world<sup>1</sup>. More than 5 million new cases occurred during the year. About 3.5 million deaths occurred in that year alone (compared to 2.8 million in 1999)<sup>2</sup>. By the end of 1999 there were 24.5 million people living with HIV globally, mostly youths between the ages of 15-49 years. The AIDS pandemic affects all sectors of the economy and is considered an indicator of uneven or dysfunctional social developmental status of a nation. Necessarily, the global strategy for the control of HIV/AIDS has been intense but the scale of the burden in Africa is overwhelming, stretching to the limit the already lean resources in such countries<sup>3</sup>. The advent of antiretroviral (ARV) drugs has been a gratifying development although the much-sought-after cure has not been achieved. Various antiretroviral agents have emerged and considerable progress has been made in terms of efficacy and safety profiles<sup>4</sup>.

Adherence can be defined as the extent to which client behaviour coincides with the prescribed health case regimen as agreed upon through a shared decision making process

between the client and the health care provider<sup>5</sup>. In more technical term, adherence could be viewed for most other chronic disease is 80 % of pill taken for the treatment. This standard dose does not apply to HIV/AIDS and antiretroviral therapy. With HIV therapy, greater than 95 % adherence is the goal. Less than excellent adherence may result in virus break through and emergence of drug resistant strains of HIV. Even short term non-adherence to an aggressive therapy may result in rapid virus increase in population in the lymph nodes. Among the important things in managing HIV/AIDS patient is good adherence which is critical for successful HIV treatment, but difficult to achieve.<sup>6</sup>

Drug adherence is a key part of highly active antiretroviral therapy (HAART). It refers to the whole process from choosing, starting, managing to maintaining a given therapeutic medication regimen to control HIV viral replication and improve function of the immune system. Non-adherence is the discontinuity or cessation of part or all of the treatment such as dose missing, under dosing, or overdosing, and drug holidays.<sup>7</sup> The significance of adherence to treatment has become recognised, which is important in optimising the patient's response to therapy. In contrast, non-adherence can lead to treatment failure, a rise in plasma viral load, and the development of drug-resistant HIV strains.

Despite the severe consequences of non-adherence to antiretroviral therapy, many aspects of assessment of adherence, its psychology, and its virology's implication are unclear. The methods use for measuring adherence ranging from self report, physician assessment, pill count and computer monitoring. In other to put an effective adherence measurement in place, accurate knowledge of the factors that lead to known adherence need to be well articulated such factor ranging from, toxicity, pill budding, stage of the infection, cost, and other factor such as stigmatisation<sup>8</sup>. Another important obvious thing need to be well understood are the factors that influence patients medication taking, these include clinical interaction<sup>9</sup>, health condition, features of the regimen, prognosis, and socio-economic factors<sup>10</sup>. Hence this research is aimed evaluate the adherence level of patients on antiretroviral therapy.

## MATERIALS AND METHODS

a. Physical presence of the patients

b. Patients who returned for the collection.

Adherence was reviewed for 150 patients who were receiving drug in our centre.

A sample was randomly selected from the HIV-infected patients attended the clinic during the study period. Patients were receiving free ART, were aged 18 years and older, had been on Triple regimen for at least six months, self-administered their medication, and were mentally competent to give consent. Study participants were asked to bring their pills on each for the next collection; the remaining pills were counted in each visit. Adherence was calculated and categorised as follows:

**Adherence = Total number of pill taken /**

**Total number of drug given X 100.**

**Category of adherence, A = 100 %, B = 95–99 % and C= 90 – 94 %.**

In addition, further information was obtained using questionnaire to elicit response concerning their ART therapy. To ensure validity of the contents, HIV/AIDS experts

were allowed to moderate the questions and items less than 95 % acceptance were rejected. Ten questions were asked based on the subject matter.

### Method of data analysis

A statistical method of analysis based on chi-square was used. Based on the data collected, hypotheses were formulated and tested at 95% level of significance. The data were also expressed using percentages.

**Table 2: Responses from the questions**

Questions	Response (Yes	No)
Do you know you are HIV positive?	150 (100%)	0 (0%)
Are you counseled on importance of adherence before giving HIV/AIDS drugs?	150 (100%)	0(0%)
<b>Adherence level      Number of response</b>		
Grade 100 % = A	95 (63.3%)	
Grade 95- 99% = B	25 (16.7%)	
Grade 90 – 94 % = C	30 (20%)	
Is the cost of the transportation affect your adherence	35 (23.3%)	115 (76.6%)
Is toxicity of the drug your reason for missing the dose	18 (12%)	132 (88%)
Does the drug act as burden to you	20 (13.3%)	130 (86.7%)
Is stigmatization your reason for missing the dose	35(23.3%)	115 (76.7%)
Do you considered the drug not effective	10 (6.7%)	140 (93.3%)
Are you on any herbal drug as an alternative means	15(10%)	135 (90%)
Is herbal medicines are more effective than orthodox medicine	15 (100%)	0 (0%)
Do you have any improvement since you started on herbal medicine	12 (80%)	3 (20%)

## RESULTS

Evaluation of the impact of adherence counselling among clients on anti-retroviral therapy in an approved missionary hospital results were shown in the table no1 and table no2.

**Table 1: Characteristics of patients enrolled in the study.**

Characteristics	patient (n=250)	% n
Study sample	150	100
Age (yr), 18-45 yrs	150	100
Attend any form of education	110	73.3
Able to read	110	73.3
Married	105	70
Gainfully employed	65	43.3
<b>Patients weight</b>		
weight ≤ 60 kg	114	76
weight ≥ 60 kg	36	24

## DISCUSSION

The characteristics of all the client use in this study is show in table 1, all the clients are an adult, this mean they understand the question given to them. In table 2, 63.3 % show 100 % adherence, about 16.7 % of the sample gave adherence level of 95-99% while 20% fall short of normal ART adherence. the result indicate that only 70% of the sample could be trusted with ART therapy, the figure is not impressive going by the magnitude of HIV and the enormous resource put in by the government.

Among the reasons for non-adherence are the side effects of the drug which account for 12%, this is very common to ART. Antiretroviral therapy can have a wide range of adverse effects on the human body, common but mild adverse effects occurring early in most antiretroviral regimens include gastrointestinal effects such as bloating, nausea and diarrhoea, which may be transient or may persist throughout therapy<sup>11</sup>. Other common nuisance adverse effects are fatigue and headache caused by AZT and nightmares associated with EFV. Several uncommon but more serious adverse effects associated with antiretroviral therapy, including AZT-associated anaemia, d4T-associated peripheral neuropathy, PI-associated retinoid toxicity (exemplified by pruritus and ingrown toenails) and NNRTI-associated hypersensitivity reactions, are treated according to accepted therapy for these conditions in patients not receiving HAART.

However, the subtle and serious nature of other adverse effects - lactic acidosis, hepatic steatosis, hyperlactatemia, hepatotoxicity, hyperglycemia, fat maldistribution, hyperlipidemia, bleeding disorders, osteoporosis and skin rash<sup>12</sup>. A total of 23% anchored their reason to cost of transportation the site. These were so because the majority of people that make up this study group usually spend four to five hundred naira on transport to collect their drugs every month, generally because of poor road network in the area, no matter short is the distance commercial driver charge high, in some cases where the road is so bad for vehicle they often resulted to motorcyclist which cost them more. About 10% of patients are on herbal drug, their view are

that antiretroviral drugs could not cure their disease, hence, the search for herbal drug, some of the people have more affection for herbal drugs; they believed that herbal drugs is more effective than the antiretroviral drugs, The absence of a magic orthodox therapy that could cure HIV/AIDS, like it is for other chronic illnesses such as tuberculosis has not encouraged demands for antiretroviral drugs<sup>13</sup>. Their cultural believe has a lot of influences in the way they patronised orthodox health institutions.

The frequency of reading/watching through our daily media such as newspaper, television and radio on frequent advertisement on the role of herbal drugs in the management of sexual transmitted diseases including HIV/AIDS. Some are of the opinion that since HIV/AIDS have no cure there was no need to waste money in procuring the drugs.

Researcher observed that, treatment adherence has become an important medical, financial, psychosocial and health policy issue. World Health Organization (WHO) recommends a period of education and preparation aimed at maximising adherence before commencing HAART<sup>14</sup>. The development of a practical process or programme that optimises patient goals, improves medication adherence to HAART and supports patient education through the different stages of drug adherence counselling is essential.

Adequate counselling of HIV/AIDS patient before prescribing or dispensing of ARV drugs, is very essential. The patient also needs to be counselled on the important of adherence to their drugs. The few that show good adherence should be encouraged by giving some special package and this must be done in the present of their colleagues. Antiretroviral should also be given free and more centres need to be established in all the tertiary health institutions. Monitoring and evaluation officer should be empowered to visit some of the patients' at home for better interaction apart from the clinic appointment.

**REFERENCES**

1. Anthony DH, AIDS Review: *Africa health*, 1996, 21(3): 29-31.
2. Osborne, CMP. AIDS. 1996, 10: 93. *Rapid science*.
3. Josef, D. HIV and Development: *AIDS*. 1996, 10 (3). 569-574.
4. Palmer, C. *Aust Prescr*, 2003, 26: 59-61.
5. Background Document for the Training Manuals on the use of Antiretroviral Drugs in Nigeria, (2006). By the Nigeria Institute of Medical Research (NIMR-Federal Ministry of Health, Lagos).
6. American Public Health Association. Adherence to HIV Treatment Regimens: Recommendations for Best Practices. Washington DC: APHA, 2004.
7. Fong OW, Ho CF, Fung LY. Determinants of adherence to highly active antiretroviral therapy (HAART) in Chinese HIV/AIDS patients. *HIV Med* 2003;4:133-8.
8. Cramer J, Mattson RH, Prevey ML, Sschech RD. How often medication taken as prescribed? A novel assessment technique *JAMA*-1987;261; 3272-3277.
9. Glassglow RE, et al; A social-ecological approach to assessing support for disease self-management, the chronic illness resources survey. *J. Behav med*, 2000; 23;559-583.
10. Samet et al, Compliance with zidovudine therapy in patient infected with HIV type 1 a cross-sectional study in a municipal hospital clinic. *Am J Med*, 1992: 92, 495-502.
11. Carr A, Cooper DA. Adverse effects of antiretroviral therapy. *Lancet* 2000;356:1423-30.
12. Bissuel F, Bruneel F, Habersetzer F, Chassard D, Cotte L, Chevallier M, et al. Fulminant hepatitis with severe lactate acidosis in HIV-infected patients on didanosine therapy. *J Intern Med* . 1994;235:367-71.
13. The data collection on adverse events of Antiretroviral drugs study group. Combination antiretroviral therapy and the risk of myocardial infarction. *N Engl J Med*, 2003; 349: 1993-2003.
14. World Health Organisation. Chronic HIV Care with ARV Therapy. Interim Guidelines for First-Level Facility Health Workers. Integrated Management of Adolescent and Adult Illness(IMAI). Geneva:WHO, 2003.