

PATTERN OF PAEDIATRIC HIV/AIDS – THE AWKA EXPERIENCE

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SUMMARY

Background: Paediatric HIV/AIDS has become a significant cause of morbidity and mortality in our environment

Objectives: The aim is to determine the clinical features on presentation, routes of transmission and outcome of hospital admissions in children with Paediatric HIV/AIDS at Amaku General Hospital Awka Anambra State Nigeria.

Materials and Methods: A retrospective study of children with Paediatric HIV/AIDS admitted into the hospital between March 1, 2007 and February 28, 2009 was done. Diagnosis for HIV infection was based on double ELISA and clinical criteria as recommended by WHO.

Results: Thirty-nine HIV positive children aged 10weeks to 12years were admitted into the ward, accounting for about 10% of total admissions. There were 22 males and 17 females. Majority of the patients (38.5%) were ≤ 3 years old. Major clinical features were fever (76.9%), diarrhoea (53.8%), weight loss (51.3%) and cough (46.1%). Vertical transmission was the major route accounting for 66.7% and was statistically significant ($p < 0.05$). Twenty-nine patients (74.3%) were discharged, while mortality rate was 15.4%

Conclusion: The finding indicates that Paediatric HIV/AIDS occurs predominantly by vertical route in Amaku General Hospital Awka. We recommend intensification of efforts to implement the existing prevention of mother to child transmission programme.

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Accepted for Publication: October 3, 2009

Keywords: HIV/AIDS, Paediatric age group, Awka.

INTRODUCTION

Human Immune deficiency Virus (HIV) infection has become a pandemic. Globally, about 45 million people are estimated to be infected and more than half of them are women and children.¹ Sub-Saharan Africa has been the most devastated region accounting for about two-thirds of all infected adults and over 90% of Infected children.^{2,3} In Nigeria about 5-8 million people are estimated to be living with the virus.⁴ However, ever since the first case of Paediatric Acquired Immunodeficiency Syndrome (AIDS) was described in Nigeria in 1986,⁵ the HIV Pandemic has continued to emerge in both magnitude and diversity with serious impact on the health and survival of Nigerian children. Despite the several public health intervention measures aimed at further breaking and reducing the transmission rate the sero-prevalence in Nigeria has started to rise again from prevalence of 4.4% in 2005 to 4.6% in 2008.⁶ Mother to child Transmission (MTCT) of HIV or vertical transmission is the most important route of transmission in paediatric HIV accounting for more than 90% of infections in children.^{7,8} MTCT rates range widely and are generally higher in Africa (20 – 42%) than industrialized countries (14 – 25%).⁹ The number of children living with HIV infection globally is estimated at 1.3 million, with 33.8 million deaths since the epidemic began.¹ Sub-Saharan Africa harbours most of these infections and deaths accounting for over 90% of the world's children with HIV. It is estimated that about 2.4 million HIV positive women get pregnant each year with about 600,000 children getting infected through MTCT each year and about 1600 to 1800 children getting infected every day through this mechanism.^{7,10} Nigeria has the highest burden of MTCT rates and Paediatric HIV disease in the world and the 2006 joint United Nations Programme on

HIV and AIDS (UNAIDS) report on the Global AIDS Epidemic indicated that there are an estimated 240,000 children under 15 years old accounting for 14% of the total African burden.⁶ In this report, we describe our experience at Awka, capital of Anambra State with regards to the Pattern of Paediatric HIV/AIDS. It is hoped that information obtained from this study will provide basis for future research as well as data to compare similar reports from other centres.

MATERIAL AND METHOD

This study was done at Amaku General Hospital Awka which is a secondary health care facility owned by the Anambra State government. The centre has been in existence without the services of a paediatrician, until the last quarter of 2006 when government re-equipped the hospital and employed consultants in different specialties and other hospital staff to make the place fully functional. The children's ward has a total of 15 beds. A two year retrospective analysis of HIV/AIDS patients admitted into the children's ward of Amaku General Hospital Awka between March 1, 2007 to February 28, 2009 was carried out. The case records of children aged above one month to 15 year were selected, excluding neonates. The diagnosis of HIV/AIDS was by clinical features suspicious of HIV/AIDS infection in persons who were also HIV positive by double ELISA. In those less than 18months of age, the diagnosis of HIV infection was based on patients and their mother being antibody positive to double ELISA and also fulfilled the clinical criteria as recommended by World Health Organization (WHO) clinical case definition for Paediatric AIDS in Africa¹¹.

The major criteria which were applied during the case analysis are as follows: weight loss or failure to thrive, chronic diarrhoea for over 1 month and prolonged

fever for over 1 month. The minor criteria include generalized lymphadenopathy measuring a least 0.5cm and present in two or more sites with bilateral lymph nodes counting as one site; oropharyngeal candidiasis; persistent cough for over 1 month; generalized dermatitis, and confirmed maternal HIV infection. In this definition, Paediatric AIDS is suspected when there are at least two major features associated with at least two minor features, in the absence of any known cause of immunodepression.

The following information were extracted from the case records: Age, sex, presenting symptoms and signs, history of previous blood transfusion, diagnosis at admission, HIV status of the mother in order to establish the likely source of infection, and the outcome of admission.

Analysis of the data was done with Statistical Package for Social Science (SPSS) version 11.5 software. The chi-square was used where appropriate. A p-value of < 0.05 was considered significant.

RESULTS

As extracted from the ward register, 43 patients with HIV/AIDS were admitted during the 2 year period accounting for about 10% of the total admission. However, 4 of these were excluded because of incomplete data. The case records of the remaining 39 patients whose ages ranged from 10 weeks to 12 years were retrieved and reviewed. This is made up of 22 males and 17 females with male: female ratio of 1.29:1.

Table 1 shows the age and sex distribution of HIV positive patients. Majority of the patients (38.5%) were ≤ 3 year old and male to female ratio was 1.5:1.

Table 1
Age and Sex Distribution of HIV/AIDS Patients

Age (years)	Male	Female	Total	%
10 weeks-3	9	6	15	38.5
4 - 6	6	5	11	28.2
7 - 9	4	2	6	15.4
10 - 12	3	4	7	17.9
Total	22	17	39	100.0

P > 0.05

The least affected patients were 7–9 year age group. When the various age groups and gender were compared the differences were not statistically significant ($P > 0.05$).

Table 2 depicts the major clinical features on admission among the HIV positive patients. Majority, 30 (76.9%), presented with fever, followed by chronic diarrhoea 21(53.8%), weight loss 20 (51.3%) and cough 18(46.1%) in that order.

Table 2
Major Clinical Features of HIV/AIDS Patients at Admission

Feature	Total	%
Fever	30	76.9
Chronic Diarrhoea	21	53.8
Weight Loss	20	51.3
Cough	18	46.1
Crepitations in the Lungs	14	35.9
Difficult/Fast Breathing	11	28.2
Palor	9	23.1
Generalised Lymphadenopathy	7	17.9
Oral thrush	6	15.4
Otitis Media	6	15.4
Hepatosplenomegaly	4	10.2
Vomiting	3	7.7

Table 3 illustrates the probable modes of transmission of HIV infection in relation to Age. Twenty-six (66.7%) children most probably acquired HIV vertically because both the mothers and patients were HIV positive at the time of screening. Twenty-two (84.6%) of these 26 patients were ≤ 3 years old and 12 of these have already

developed features of AIDS on presentation. When the vertical route was compared with Blood transfusion route, the difference was statistically significant ($P < 0.05$).

Twenty – nine patients (74.3%) were discharged home for follow up in the HIV clinic. Three (7.7%) patients were taken home against medical advice and 1 patient (2.6%) absconded while still receiving treatment. Six patients (15.4%) died, 5 (83.3%) of who died of pneumonia.

Table 3
Probable Routes of Transmission of HIV Infection

Age (years)	Vertical Transmissi on	Blood Transfusi on	Route Unidenti fied	Total
10wee ks - 3	22	1	2	25
4 - 6	2	2	1	5
7 - 9	2	–	3	5
10 - 12	–	2	2	4
Total	26	5	8	39
%	66.7	12.8	20.5	100.
				0

$P < 0.05$

DISCUSSION

Our study has shown that HIV/AIDS is still with us and appears to be increasing in prevalence despite Health education and other intervention measures aimed at reducing the scourge in Nigeria. The reason for this conclusion is that 43 patients with HIV/AIDS accounted for about 10% of the total admission for this 2year review. However, this may not be the true picture in the general population considering the facts that some may have died without presenting to this health facility; and this facility is not the only available health facility where diagnosis could be made. HIV/AIDS is therefore a threat to child survival in Nigeria. Majority of the children affected in this study were those in age group equal or

less than 3 years old. This collaborates with similar studies from Enugu¹², Jos¹³, and Calabar¹⁴ in Nigeria and Zambia¹⁵ in Africa where majority of the children with HIV/AIDS were similarly distributed by age and majority of them manifested with signs and symptoms of HIV/ AIDS before the age of 3 years, showing the depth of influence of mother to child transmission (MTCT) on the epidemiology of HIV/AIDS on the continent. This review also shows that the signs and symptoms of HIV/AIDS observed were not different from reports from other centres¹²⁻¹⁷. Although these clinical features could have pointed to other diseases such as severe malnutrition and tuberculosis, HIV screening test and WHO case definition of Paediatric AIDS in Africa helped us to arrive at the diagnosis. Vertical or MTCT was the commonest route of HIV transmission in this study being responsible for 26(66.7%) of the cases. This was found to be statistically significant when compared with Blood transfusion. This result is similar to the 69.6% documented in Jos¹³ but differs from the 30% found in Enugu¹². MTCT is known to be the commonest mode of HIV Infection in children, accounting for about 90% of Paediatric HIV/AIDS^{7,8}. It is possible that in the time interval between the Enugu study (1989 – 1996) and the present study (2007 - 2009) a change has occurred in the pattern and route of transmission. The Enugu study was done when HIV screening of donor blood had not become widely available. The outcome of treatment in this case-series shows that there is hope for HIV positive children as up to 74. 3% of them were discharged home for follow up in the HIV clinic, where other aspects of care will be offered them including placement on anti- retroviral drugs if they meet the criteria. Pneumonia was found to be responsible for most of the mortality recorded: this is a challenge to health care planners and providers.

In conclusion, the findings indicate that Paediatric HIV/AIDS is acquired predominantly by MTCT and constitutes a significant cause of childhood morbidity and mortality at Amaku General Hospital Awka. We recommend intensification of efforts to implement the existing prevention of MTCT programme and further evaluation of pneumonia in HIV positive children.

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