

MORBIDITY PATTERN IN PAEDIATRIC OUTPATIENT UNIT OF THE UNIVERSITY OF ABUJA TEACHING HOSPITAL, GWAGWALADA, NIGERIA.

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ABSTRACT

Objective: The study was aimed at identifying the common presenting complain, and diagnosis among paediatric patients, who attended outpatient unit of department, at the University of Abuja Teaching Hospital (UATH), Gwagwalada.

Patients and Method: Information was retrieved from the case records of all children from the ages of one day to 15 years, who presented for treatment at the Paediatric Out Patient Unit (POPD) of UATH, from January 2005 to December 2006.

Result: During the study period of two years, a total of 3,669 paediatric patients were seen, with a mean age of 4.1 ± 1.7 years. There were 1,948 males and 1,721 females given a male to female ratio of 1.1:1. Under five years constituted 74.9% of paediatric outpatient visit, with 52.7% being children less than 2 years, and 33.1% being those less than one year. The three commonest presenting complain were fever (48.4%), cough/catarrah (18.4%) and diarrhoea (7.9%). Malaria was the commonest diagnosis made (39.0%), this was followed by acute respiratory tract infection (ARTI) in (22.0%) of case, and human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) in 11.9%. Measles was least diagnosed (0.5%), with gastroenteritis being recorded in (5.2%), and skin infection in 5.8% of cases. Infectious diseases with HIV/AIDS inclusive constituted 82.8% reason for outpatient paediatric visit in UATH.

Conclusion: Infectious diseases still remain major reason for paediatric outpatient visit at the UATH. Though measles and diarrhoea were on a downward trend, every effort must be made to bring malaria, ARTI and most recently HIV/AIDS under control.

Key Words- Paediatric outpatient unit, presenting complain, diagnosis.

INTRODUCTION

Children, as one of the most vulnerable population group, faces universal high health risk as they grow.¹ With still developing immune system, they are completely dependent on others for their survival. The obstacle for optimal health are greatest for children born under poverty. They are the most likely to be exposed to infectious diseases, unclean water, and are at the greatest risk of malnutrition.¹⁻³ Infectious disease is a major cause of morbidity and mortality in children in developing countries as reported by the of the World Health Organization (WHO) in its 1996 global disease burden in children.⁴ The high environmental contamination and overcrowding in these areas ensures optimum condition for the transmission of micro organism by contact, droplets, dust, food, water, insects and animal vectors.³ One of the most commonly reported morbidity that affects millions of children in tropical environment is malaria.^{5,6} Malaria is a serious disease in children, responsible for over 30% outpatient visits, and 20% mortality among under five.⁵⁻⁸ Its major presenting complain being fever, headache

And joint pains. Hence, WHO sick child algorithm requires that all children with fever in tropical environment be treated for malaria unless proven otherwise.^{6,7} Acute respiratory tract infection and diarrhoea are also very common disease of childhood.⁹⁻¹² Most cases are mild and self limiting, however in small number of children, these diseases can be serious and life threatening, and have continued to claimed the life of over 4 million under five annually.^{10,12} Recently, Paediatric HIV/AIDS is assuming an increasing dimension in the sub region.¹³⁻¹⁵ In some part of the continent it has surpassed malaria as the leading cause of death and outpatient visitation.¹⁵ This has not been the case several decades ago. In Nigeria and other African countries, the leading causes of childhood morbidity and mortality as reported in various centres were malaria, acute respiratory tract infection (ARTI), sepsis, severe anaemia, diarrhoeal diseases, ear and skin infections, and malnutrition.¹⁶⁻²³ The reverse is the case in most developed nations were infectious diseases contributes minimally to childhood morbidity and mortality because of enormous progress made in combating childhood infectious diseases.²⁴ A true representative pattern of childhood mortality in

Nigeria is necessary if cost effective measures are to be taken to improve the quality of life of the Nigeria child and achieve millennium development goal number four of reducing childhood mortality. The entire operation of the health care system allocation of resources should also be based on the adequate understanding of the morbidity pattern in a setting since this determines the utilization of resources by the healthcare providers and the clientele. The objective of this retrospective study is therefore to document the common presenting complaints and pattern of morbidity in POPU of a new teaching hospital in Abuja, since no such study has being reported there. It is envisaged that the data from the study will provide baseline information on childhood morbidity pattern in the area for comparative and policy formation purposes.

METHODS

A retrospective study involving reviewing of all case notes of all paediatric patients from the ages of day one to 15 years, who attended POPU of the UATH for treatment, from January 2005 to December 2006 was carried out. Paediatric outpatient unit of UATH is made up of General Paediatric Outpatient (GPO) and Paediatric Outpatient Special Treatment Clinic (POSTC) for HIV/AIDS patients. The GPO has two sub-units, (1& 2). Sub unit 1 is runned by resident doctors and house officers in paediatric outpatient posting. They oversee the day to day running of all out patient paediatric medical cases in the hospital. The sub-unit 2 of GPO is a sub speciality clinic for consultants/ and their resident doctors in the various sub specialities in the department. They attend to all referred paediatric cases in their various sub specialties. Referred cases were generally paediatric patients from GPO sub unit I, from other hospitals within and outside Federal Capital Territory (FCT), Abuja, and within the hospital. POSTC oversees only children with HIV infections. The unit is open to patients from 7:30am to 4:00pm from Mondays to Fridays.

Inclusion criteria were all paediatric patients who visited the clinic for first time for treatment, those excluded were all follow-up cases, and emergencies cases that needed admission into various paediatric wards. The hospital is a referral centre for people in FCT, Abuja, and other adjoining states like Niger, Nasarawa, Kogi, Benue, and part of Kaduna. It is also one of the six centres in the Federation that started offering free medical services to HIV/AIDS victims, courtesy of United States Government, through Presidential Emergency Programme for AIDS Relief (PEPFAR). The case notes of all paediatric patients who met the inclusion criteria during the two years review were retrieved and reviewed to document presenting complain and

diagnosis made. Presenting complain were recorded under five headings namely fever, cough/catarrah, diarrhoea, skin rashes and others. Diagnosis was also categories as; malaria, gastroenteritis, acute respiratory tract infection (ARTI), HIV/AIDS, skin infection, measles and others. Data analysis was conducted using SPSS programme version 7.5 of 1996 which provided frequency distributions, percentages, histograms, and student 't' test.

RESULTS

A total of 3,721 patients came for paediatric outpatient medical services during the two year study period, 52 Of them had incomplete data, hence only 3,669 patients were analysed. There were 1,948 males and 1,721 females given a to female ratio of 1.1:1. Their age ranges from day 1 of life to 15 years, with a mean of 4.1 ± 1.7 years. It was noted that 3.1% of the patients were neonates, 33.1% were those less than 1 year, 52.7% being those less than 2 years, while 74.9% were under 5 years, (table 1). This implies that 3 out of every 4 paediatric outpatient visit to paediatric unit of the hospital were children less than 5 years. The distribution of presenting complain of paediatric patients who came for outpatient consultation by age was shown in table 2. Fever was the commonest presenting complaint across all paediatric age group (48.4%), but commoner between the ages of 1 2 years (29.8%). This was followed by catarrh/cough (18.4%), diarrhoeal disease (7.9%), and skin rashes (5.8%). Other morbidities recorded as others (19.5%), were otorrhea, painful micturation, abdominal/chest/bone pains, eye discharge etc.

Table 3 shows the distribution and percentages of paediatric outpatient visit by ages and diagnosis. Malaria was the commonest diagnosis made in 39.0% of case. The second and the third diagnosis were ARTI 22.0%, and HIV/AIDS in 11.9% Gastroenteritis and skin infection was recorded in 5.2% and 5.3% respectively. Measles was the least diagnosed (0.5%), while others (17.2%) in the category of diagnosis were conditions like urinary tract infection, otitis media, sickle cell anaemia, helminthiasis, conjunctivitis etc.

Table 1: Percentage Distribution of Paediatric Outpatient Visit by Age.

Age in Months	Number of Children	Percentage of Visits
0 - <1	112	3.1%
1 - <6	391	10.7%
6 - <12	709	19.3%
12 - <24	720	19.6%
24 - <60	818	22.3%
60 - <120	532	14.6%
120-180	387	10.5%
Total	3,669	100%

Table 2: Distribution of Paediatric Outpatients Visits According to Their Presenting Complain by Age.

Age in months	Fever (%)	Cough/Catarrah (%)	Diarrhoea (%)	Skin rashes (%)	Others (%)	Total (%)
0-<1	56(3.2)	42(6.2)	6(2.5)	39(18.3)	68(9.5)	211(5.8)
1-<6	143(8.2)	71(10.5)	20(6.2)	25(11.7)	122(17.1)	381(10.4)
6-<12	195(11.2)	103(15.2)	24(16.0)	11(5.2)	85(11.9)	418(11.4)
12-<24	501(29.8)	142(21.0)	87(29.7)	45(20.7)	125(17.5)	900(24.5)
24-<60	452(226.1)	121(17.9)	73(25.3)	39(18.4)	90(12.6)	775(24.5)
60->120	261(12.5)	70(10.4)	44(15.2)	32(15.2)	93(13.0)	500(13.6)
120-180	166(9.6)	127(18.8)	38(13.0)	22(10.4)	131(17.7)	484(13.2)
Total	1,774 (48.4%)	676 (18.4%)	292 (7.9%)	213 (5.8%)	714 (19.5%)	3,669 (100%)

ARTI - acute respiratory tract infection

Table 3: Distribution of Paediatric Outpatient Visits by Age and Diagnosis.

Age in Months	Malaria (%)	HIV/AIDS (%)	ARTI (%)	Gastro-enteritis (%)	Skin Infection (%)	Measles (%)	Others (%)	Total (%)
0-<1	3(0.2)	5(1.1)	47(5.9)	11(5.8)	38(19.6)	0(0)	89(14.3)	193(5.2)
1-<6	106(7.5)	43(9.8)	122(15.4)	31(16.2)	18(9.3)	1(5.8)	71(11.4)	392(10.9)
6-<12	245(17.3)	81(18.5)	159(20.1)	50(26.2)	27(13.9)	9(52.9)	52(8.3)	623(17.0)
12-<24	320(22.7)	101(23.1)	148(18.7)	48(25.1)	37(19.2)	3(17.7)	63(10.1)	720(19.6)
24-<60	339(24.0)	128(29.3)	157(19.8)	24(12.3)	41(21.3)	4(23.3)	125(10.1)	818(22.3)
60-<120	241(17.1)	28(6.4)	96(12.1)	13(6.8)	18(9.3)	0(0)	125(20.0)	532(14.5)
120-180	154(11.0)	51(11.7)	64(7.8)	14(7.3)	14(7.3)	0(0)	88(14.1)	387(10.6)
Total	1401 (39.0%)	437 (11.9%)	793 (22.0%)	191 (5.2%)	193 (5.3%)	17 (0.5%)	624 (17.2%)	3,669 (100%)

ARTI - acute respiratory tract infection

Table 4: Distribution of Paediatric Outpatient Diagnosis by Age (above and under 5 years).

Age in Years	Malaria (%)	HIV/AIDS (%)	ARTI (%)	Gastro-enteritis (%)	Skin Infection (%)	Measles (%)	Others (%)	Total (%)
0-<5	1013(71.8)	358(81.9)	633(79.8)	164(85.9)	161(83.4)	17(100.0)	400(64.1)	2,746(74.9)
5-<10	241(17.1)	28(6.4)	96(12.1)	13(6.8)	18(9.3)	0(0.0)	136(27.8)	532(14.5)
10-15	156(11.6)	51(11.7)	64(7.8)	14(7.3)	14(7.3)	0(0.0)	88(14.1)	387(10.6)
Total	1401 (39.0%)	437 (11.9%)	793 (22.0%)	191 (5.2%)	193 (5.3%)	17 (0.5%)	624 (17.2%)	3,669 (100%)

ARTI - acute respiratory tract infection

Table 4 shows the distribution of diagnosis among under 5 years of age and those greater than 5. Disease conditions significantly occurred in children less than 5 year (74.9%) than in older ages groups of 5-15 years (25.1%), $t=8.236$, $p>0.05$.

DISCUSSION

It was obvious from the data generated in this study that less than 5 years age group accounted for 74.9%

of paediatric outpatient visits in the hospital. Information also shows that 3 out of every 4 outpatient visit to POPU were children less than 5 years. The high under 5 outpatient visit to hospitals were also reported in other centres both within^{16,21} and outside the country,^{22,23} and might not be unconnected with inadequate immune system, malnutrition, overcrowding, and poor environmental conditions the children are exposed to, in this part of the world.

The maternally acquired transplacental immunoglobulin (Ig) in utero usually starts disappearing in infants during the first 6-18 months of postnatal life.^{3,24} The rate of synthesis of Ig by these young children increases from 6 months of age until adult concentration is attained and maintained by 6-8 years of age.²⁴ During this transition phase of disappearance of maternal acquired Ig and acquisition of ones Ig, young children are most often challenged with numerous infective agents in the phase of compromised immune system. Again, under five children in the tropic are most often found to have reduced ability to combat established and severe infections.² The impairment which commences in utero with intrauterine growth failure and low birth weight renders the infants and under five more vulnerable to infections. In addition, protein energy malnutrition is prevalent during weaning and toddler period in most developing countries. This has been found to reduce ones immunity and resistance to infections by way of impairment on the cell-mediated immunity.^{3,2} Infections disease still constitute a major problem in developing countries.¹⁻³ This was documented in 82.8% of outpatient consultation in this study and justifies the report by WHO of infectious disease being the major cause of childhood morbidity and mortality in the developing countries. WHO equally pointed out that infectious diseases will continue to cause havoc in young children if frank effort was not made to bring them under control. Numerous preventive programmes have been established in the recent times in the health sector by the Federal Government of Nigeria, all directed towards preventing the menace of tropical diseases. They include immunization programmes, oral rehydration therapy (ORT), baby friendly hospital initiative (BFHI), roll back malaria, prevention of mother-to-child transmission of HIV infection, etc. This has resulted in the decreasing incidence of measles (0.5%) and gastroenteritis (5.2%) as reported in the present study and even elsewhere.^{16,17} The declining trend is likely to continue because of the national and international collaborative efforts towards fighting the menace of tropical diseases. The newly introduced Integrated Management of Childhood Illnesses (IMCI) strategies by UNICEF/WHO underscores this development. Other workers from this part of the world and other developing nations¹⁶⁻²³ have also reported high infection diseases burden in children. This may be as a result of reasons given previously, in addition to harsh and poor environmental conditions with high temperature and humidity, which encourages the growth and multiplication of many infective micro-organisms in our environment.

Malaria still remain the leading cause of both morbidity and mortality in children in most tropical environment except in some areas in African where HIV/AIDS has surpassed it.^{14,15} It is the commonest cause of paediatric outpatients visitation in this study. This was documented in (39.0%) of cases, and partly agrees to the findings of Ojukwu from Abakiliki (23.4%),²⁷ and Omokhodion from Ibadan¹⁷ 20.0%. The reported differences in malaria incidence from various centres in the country might be as a result of the study designs. While Ibadan study was a community based study, Abakiliki report was on hospital admitted patients with severe form of malaria, while the present study was hospital based, and among outpatient cohorts who had simple acute malaria. The growing number of paediatric HIV/AIDS as documented in the present study (11.9%), agrees with the findings of 13.7% by Ojukwu and co workers from Abakiliki in 2003.²⁸ It was however higher than 1.5% from Jos by Angyo et al in 1998,²⁶ and lower than 23% from Enugu²⁹ and 20% from Ile-Ife.³⁰ The high HIV/AIDS prevalence in Federal Capital Territory (FCT) Abuja might not be unconnected to the nature of the city. Abuja is the seat of power of the country, and one of the fastest growth city, with influx of young people both within and outside the country looking for white collar jobs. HIV/AIDS is predominately a disease of sexually active young individuals who passes on this virus to their unborn children in over 90% of cases.^{1,14} Again, UATH is one of the first six centres to have started offering free HIV/AIDS care services to HIV victims through assistance from Presidential Emergency Programme for AIDS Relief (PEPFAR), courtesy of government of United State of America. For this reason, many infected adults and children take advantage of the free services offered in the institution to seek for their HIV/AIDS needs. The high cases of skin infection (5.8%) reported in the present study could be due to overcrowding with generally poor water supply system in FCT suburbs: Water is very vital in both domestic and body hygiene. Most populace in suburbs of FCT make use of water vendors for domestic and personal needs, which to my understanding fall short of daily water need of individual, because of the financial involvement in buying water from water vendors. Fever was documented in 48.4% of patients, cough/catarrah in 18.4%, and diarrhoea in 7.8%. These were the three commonest presenting complain recorded in this study, and appeared similar with reports from other centres.^{16,17} Though several studies have shown diarrhoea case to be on a downward trend in the recent times in the country,^{16,18,21} the National Demographic and Health Survey (NDHS) of 1999, however reported (15.0%) diarrhoea incidence, while Ibadan study recorded

(32.9%). The variations again might be as a result of the study design of various studies, while the present study was hospital based one, NCHS and Ibadan study were all community based studies, and underscores the need for preventive programmes (NPI, BFHI, ORS, PMTCT etc) to go beyond the four walls of major cities in the country, but extended down to the grassroots communities where they are needed most. Paediatric patients seen in POPU were treated by physicians, and since emphasis now is more on the overall health of a child, nutritional and immunological status of these children were also addressed, apart from the disease entity that brought them to the health facility. It is of interest to note that the quality of patients evaluation and documentation of the clinical encounter is not satisfactory. The results were mostly based on the clinical impression of the care giver with little laboratory data for a more critical evaluation.

CONCLUSION

Preventable infectious disease is still the leading causes of Paediatric outpatient visit in our area. Although much have been achieved in the areas of measles and diarrhoea disease, a lot has to be done on malaria, ARTI and most recently HIV/AIDS.

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