Review of Paediatric Admissions In Mongomo Provincial Hospital, Wele Nzas, Equatorial Guinea

By
Nnamdi B. Onyire
Dept of Paediatrics, Mongomo Provincial Hospital, Wele Nzas Province, Equatorial Guinea

SUMMARY

Background: The author was part of the Technical Aid Corps team of the Nigerian Government to Mongomo Provincial Hospital, Wele Nzas province of Equatorial Guinea, between May 1997 and June 1999.

Objective: The objective of this report is to determine the pattern and outcome of paediatric admissions at Mongomo Provincial Hospital. It is hoped that the findings will be of value to future medical volunteers to this region and also to donor agencies.

Materials And Methods: Case notes of all admitted children were examined. Data collected were age, sex, diagnosis, residential area, duration of hospitalization and outcome. Approval was obtained from the hospital authority to publish the data.

Results: There were a total of analyzable 1166 admissions. The major indications for admissions were malaria 330(28.3%), severe anaemia 239(20.5%), pneumonia 204(17.5%), diarrhoeal diseases 196(16.8%), protein energy malnutrition 48(4.1%), septicaemia/meningitis 42(3.6%). Eight hundred and seventy (74.6%) were discharged home, while 70(6.0%) were discharged against medical advice, 44(3.8%) absconded and 178(15.3%) died. Severe anaemia, malaria, pneumonia, diarrhoeal diseases accounted for over 70% of the deaths.

Conclusion: Childhood morbidity and mortality in this province were mainly from infections and anaemia. Any effective health assistance to the children of this province must include provision of potent and affordable anti malaria drugs, efficient blood bank services, clean water supply and promotion of optimal breastfeeding practices.

Key words: *Paediatric Admissions, Equatorial Guinea*

INTRODUCTION

Mongomo is the capital of Wele Nzas province in the mainland territory of Rio Muni, Republic of Equatorial Guinea. Spanish is the official language. The population of the entire country is 400, 0001. The 80-bedded provincial hospital located in Mongomo is the main hospital in the province and received patients from the entire province and neighbouring towns and villages in the Republic of Gabon.

The author was part of the Technical Aid Corps (TAC) team of the Nigerian government posted to this hospital between May 1997 and June 1999. TAC is a volunteer programme established in 1986 by Nigeria as a means of providing technical assistance to African, Caribbean, and Pacific (ACP)

Correspondence Address
Dr. Nnamdi B. Onyire, Dept of Paediatrics,
Federal Medical Centre , P.M.B 102, Abakaliki
Ebonyi State, Nigeria.
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countries in the spirit of south-south cooperation.

Various reports[2-5] have shown that malnutrition, diarrhoeal disease, malaria, respiratory infections, anaemia and HIV/AIDS are among the commonest indications for paediatric admissions in most developing countries. The ranking of these diseases as indication for paediatric admission would vary from one developing country to another depending on such factors as socioeconomic status, cultural beliefs, and extent of availability of medical services.

This paper is a retrospective review of all paediatric admissions in this hospital within the stated period. The aim was to determine the disease pattern and outcome of these admissions. It is hoped that such a report will be of value in the formulation of the type of health assistance to be rendered to the children of this province by donor agencies.

MATERIALS AND METHODS

The paediatric ward (sala infantil) of Mongomo provincial hospital also served as the children's emergency unit. Diagnosis was in most cases clinical as laboratory facilities were limited to only stool and urine microscopy, blood film for parasites, haemoglobin estimation (sahli's method), blood grouping and cross matching and HIV rapid spot test (all courtesy of the Spanish cooperation).

All the case notes of children admitted into the sala infantil from May1997-June1999. Data on age, sex, residential area, diagnosis, duration of hospitalization, and outcome were extracted. Patients, whose records were incomplete, were excluded from this study.

Data processing and analysis were done using EPI/INFO version 5 statistical package. Approval for this study was obtained from the hospital authority.

RESULTS

There were a total of 1179 admissions into the paediatric ward of Mongomo Provincial Hospital, Equatorial Guinea during the period under review. Out of this, 13 were excluded for incompleteness of data, leaving 1166 analyzable records. Their ages ranged from 0-14yrs. There were 586(50.25%) male and 580(49.7%) females giving a male: female ratio of 1.01:1.00. Fifty-four (4.6%) of the patients came from neighboring towns and villages in the Republic of Gabon.

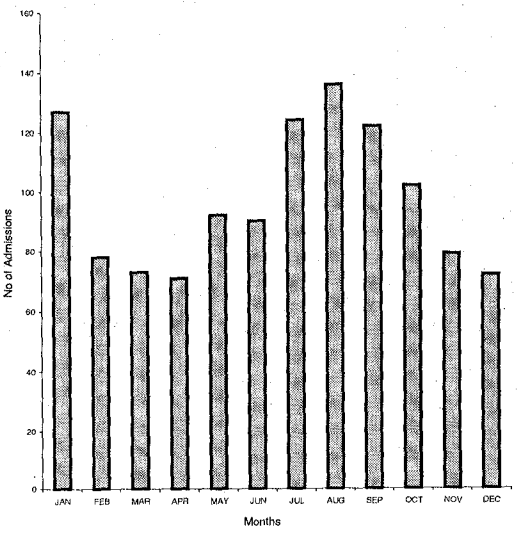

Fig. 1. Average Monthly Admissions Over a two year period

Figure 1 shows the monthly distribution of the admissions, being highest in the months of January and July-October, which constitute the peak of dry and rainy seasons respectively in this province.

The indications for admission by age are shown in Table 1. Malaria, severe anemia, pneumonia, diarrhoeal diseases, protein-energy malnutrition, septicaemia, meningitis, febrile convulsion constituted the leading causes of admission into the paediatric ward accounting for 1079(92.5%) of all admissions. Most of these occurred in children under 5-years of age.

Surgical conditions represented 1.3 %(15) of all admissions. The commonest surgical conditions were burns and peritonitis. Neonatal conditions mainly prematurity and septicaemia accounted for 1.0% (12) of all admissions. All pre-term neonates were nursed successfully with the Kangaroo mother care system.

Measles and Whooping cough constituted 1.2 %(14) of admissions, while there were 10 (0.9%) cases of snake bite.

Out of 48 (4.1%) patients with protein-energy malnutrition, one was infected with the Human Immune Deficiency Virus. She was a 2year old daughter of a foreign construction worker with an Equatorial-Guinean wife. This patient was one of those that died. Childhood malignancies represented 0.3 %(4) of admissions and all four were jaw tumours, probably Burkitts lymphoma, and were referred to neighbouring Cameroon for further management.

Table 2 showed that 870 patients (74.6%) were discharged home, while 70 (6.0%) were discharged against medical advice. One hundred and seventy eight patients (15.3%) made up of 101 males and 77 females died. Forty four (3.8%) absconded, while still on treatment.

Conditions with prolonged period of altered level of consciousness such as cerebral malaria and meningitis were responsible for most of the discharges against medical advice and absconding.

Out of 178(15.3%) that died, 152(85.5%) resulted from severe anaemia, malaria, pneumonia, diarrhoeal diseases, and protein-energy malnutrition.
One hundred and twenty two (68.5%) of these deaths occurred within the under 2-year old age group.

The average duration of hospitalization was 4.2 days. Most patients with protein-energy malnutrition, tuberculosis, encephalopathies, and neonatal conditions spent more than seven days.

Table 1. Major Causes of admission by Age

Conditions	Age (Months)					Total
	0-12	13-24	25-36	37-60	>61	
Malaria	35	102	96	72	25	**330**
Severe anaemia*	71	82	42	26	18	**239**
Pneumonia	72	74	20	22	16	**204**
Diarrhoeal disease	64	76	32	13	11	**196**
PEM†	11	16	10	7	4	**48**
Septicaemia	6	6	3	3	4	**22**
Meningitis	6	4	4	3	3	**20**
F/Convulsion	4	8	6	2	-	**20**
Surgical Conditions	2	3	2	2	6	**15**
Neonatal conditions	12	-	-	-	-	**12**
Tuberculosis	-	-	2	5	4	**11**
Snake Bite	-	-	3	3	4	**10**
Sickle Cell Anemia	-	2	2	4	2	**10**
Measles	-	5	5	-	-	**10**
Hepatitis	-	-	-	2	4	**6**
Epilepsy	-	-	-	-	5	**5**
Malignancies	-	-	1	2	1	**4**
Whooping Cough	-	4	-	-	-	**4**
Total	286	379	228	166	107	**1166**

*Haemoglobinopathy and malaria probably included.
†Protein-energy malnutrition. One was retroviral positive.

Table 2. Outcome of 1166 Paediatric admissions

Outcome	No of Patients	Percentage of Total
Discharged	870	74.6%
Died	178	15.3%
DAMA *	70	6.0%
Absconded	44	3.8%
Referred out	4	0.3%
Total	1166	100%

*DAMA - Discharge against medical advice

DISCUSSION

This review showed the major indication for paediatric admission in this provincial hospital to include malaria, severe anaemia, pneumonia, diarrhoeal diseases, protein-energy malnutrition, septicaemia and meningitis. This is in agreement with the findings of other reports[2-5]. It confirmed that most illnesses causing paediatric admissions in this province, as in other developing countries remain infection related.

The vulnerability of the under fives especially the under two years to communicable diseases as well as severe malaria/severe anaemia noted by other reports[3,4], is also confirmed by this review. The high morbidity and mortality of this age group from severe malaria/anaemia in this province was made worse by late presentation due to poor transportation, non existent blood transfusion services, and probable chloroquine resistant malaria. Chloroquine was widely used to prevent and treat malaria in this province. The increasing frequency of chloroquine resistant malaria as a factor in the mortality from severe malaria and anaemia in Central African Countries was recently reported[6]. Regarding severe anaemia, blood transfusion was achieved by bedside bleeding of screened and compatible donor. This arrangement was not possible in most cases of severe anaemia, who presented at odd hours of the night.

Diarrhoeal diseases constituted one of the major causes of mortality and morbidity in this review. This might due to the absence of optimal breast-feeding practices in this province. Also water supply was largely by stream and river, which served as latrine for people living upstream.

The low morbidity and mortality from measles and whooping cough in this report when compared to others[3-5], is a reflection of the high documented immunization coverage in Equatorial Guinea in general[1]. Locally trained staff using kerosene fridges effectively maintained the cold chain system. Population sensitization and awareness were high and no child visited the clinic without his/her immunization card. The use of kerosene fridges is worthy of emulation by other developing countries where power supply is epileptic or absent.

Care of pre-term babies using Kangaroo mother care method is also to be recommended in resource poor countries where incubator care is unavailable.

Low prevalence of HIV/AIDS among the in-patients reflects the low prevalence of this disease in this essentially rural community. However, with the rapid influx of foreign construction and other workers into this country as a result newly found petro-dollar, the situation may become similar to that in other Central and South African countries[1], if timely steps are not taken to avert this.

When compared with other reports[5], the rate of absconding and discharge against medical advice (DAMA) is rather high in this report. The explanation may lie in the fact that, most indigenes were ignorant of the natural history of the illnesses that accounted for most cases of absconding and discharge against medical advice (DAMA) such as encephalopathies from cerebral malaria or meningitis. The general belief is that such illnesses were caused by witchcraft (evu), victims were therefore taken to one of the numerous traditional healers (curaderos/curadras) that abound in the province. In some cases,

this action was actively encouraged by the ward "enfermeras" (nurse auxiliaries who received no formal training).

CONCLUSION

In conclusion, childhood morbidity and mortality in Mongomo Provincial Hospital, Equatorial Guinea, result from causes which are preventable and treatable. Any health plan or assistance to the children of this province must of necessity include provision of efficient blood bank services, effective and cheap anti-malaria drugs, water supply and promotion of optimal breast-feeding practices.

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