

The Pattern of Paediatric Emergencies in the University of Benin Teaching Hospital

M. A. DIAKPAROMRE AND J. O. OBI

*Department of Child Health, College of Medical Sciences,
University of Benin, Benin City.*

Summary

Diakparomre, M. A. and Obi, J. O. (1980). *Nigerian Journal of Paediatrics*, 7(2), 43. **The Pattern of Paediatric Emergencies in the University of Benin Teaching Hospital.** The pattern of admissions to the Children's Emergency Unit of the University of Benin Teaching Hospital over a 2-year period was studied. Respiratory tract infections, diarrhoea and vomiting with dehydration, and measles were the commonest causes of emergency admission. Measles was the commonest cause of death. Respiratory tract infection and measles combined accounted for over 50 per cent of all the deaths. The average age of patients admitted was 24 months while the average age of those who died was 14.6 months. The average duration of stay in the Unit was 4.2 days, while the average duration of stay of patients who died was 23 hours. Seventy-eight per cent of all admissions were successfully salvaged and discharged from the Unit, 12.2 per cent were transferred to the main wards, while 10 per cent died.

IN most developing countries, children are often brought to hospitals in the late stages of their illness. Therefore, conditions which normally should not be of emergency nature often assume life threatening dimensions. For this reason, emergency facilities for treating such children who require prompt life-saving measures have become a necessity. Children's Emergency Units are now established features of teaching hospitals in many developing countries including Nigeria.

Although the paediatric ward of the University of Benin Teaching Hospital (UBTH) was commissioned for intake of patients in 1973, it was not until August, 1976, that an emergency unit was started. Today, the physical structures of

the unit consist of a ward with a capacity for 15 patients, a treatment/resuscitation room, a nursing sister's office, a laboratory, and equipment stores.

The aim of this unit is to provide care for children who require prompt life-saving measures, and then to discharge such patients as soon as possible from the unit preferably within 24 hours of admission either by transfer to the main paediatric wards or home to continue treatment as out-patients. The present study was undertaken so as to establish the pattern of paediatric emergencies as seen in the unit, and also to examine how well this unit has served the purpose for which it was established.

Patients and Methods

All patients attending the hospital are first screened at the general out-patient (GOPD) clinics and those requiring emergency treatment are then referred to the emergency unit. For the purpose of the present study, case-notes and ward records of all referred cases during a 2-year period (August 1976–July 1978) were retrieved. Data abstracted from these case-notes or ward records included age, sex, principal final diagnosis, duration of stay in the unit, and method of disposal of the patient.

Results

During the period of the study, 119,661 patients, aged between birth and 15 years (mean age, 24 months), attended the out-patient clinics. Three thousand, two hundred and forty-four cases (2.7 per cent) of the 119,661 patients were referred to the emergency unit, but 2,769 cases were admitted for in-patient care, while 475 (13 per cent) were treated as out-patients. Of those admitted, there were 1,606 males and 1,163 females. The mean duration of stay in the unit was 4.2 days (range, 5 minutes–24 days). Three hundred and thirty-seven patients (12.2 per cent) out of the 2,769 admitted cases were subsequently transferred to the wards, while 2,156 (78 per cent) were discharged from the unit after treatment.

There were two hundred and seventy-six (10 per cent) deaths. The mean duration of stay in the unit of those patients who died was 23 hours while their mean age was 14.6 months. About 80 per cent of the deaths were aged 24 months or less. Measles accounted for the largest number of deaths in the unit, followed by respiratory tract infections. These two conditions combined, accounted for 54.4 per cent of the deaths. Deaths from diarrhoea and vomiting were comparatively few (7 per cent).

The major causes of admissions during the two-year period are listed in the Table. It will be observed that respiratory tract infections were the commonest cause of admission. They account

ed for eight hundred and nineteen (29.6 per cent) of the admissions. Over 80 per cent of these infections were bronchopneumonia. Gastroenteritis with moderate to severe dehydration was the next commonest disorder comprising seven hundred and thirty-five (27 per cent) of the cases. This was followed by four hundred and sixty-eight cases (17 per cent) of measles and its complications.

Major causes of Admission into the Children's Emergency Unit

Condition	No. of Cases	Percent of Total Admission	No. of Deaths	Percent of Total Deaths
Respiratory tract infections	819	29.6	72	26.1
Diarrhoea and Vomiting	735	27.0	19	6.0
Measles and its Complications	468	17.0	78	28.3
Febrile Convulsions	139	5.0	11	3.9
Anaemia (excluding sickle-cell anaemia)	82	3.0	14	5.1
Haemoglobin-SS Disease	76	2.7	8	2.9
Malaria Fever	71	2.6	0	0
Severe Malnutrition	58	2.1	27	9.8
Meningitis	53	2.0	7	2.5
Accidental Poisoning	38	0.3	2	0.7
Miscellaneous	230	8.3	38	13.8
Total	2769	100	276	100

Prior to coming to hospital, a majority of the cases of meningitis had received various forms of treatment including antibiotic therapy by different therapists including traditional healers, chemists, and private medical practitioners. Consequently, cultures of the cerebrospinal fluid (CSF) were negative and in such cases, diagnosis was based on clinical findings, biochemical and cytological changes in the CSF. Similarly, most cases of febrile convulsions were treated at home by burning the soles of feet with fire or application of some chemical substances to the eyes causing chemical conjunctivitis. The criterion for diagnosis of malaria was the presence of malaria parasitaemia and/or satisfactory clinical response to

anti-malarial therapy within 24 hours. Accidental poisoning constituted only a small proportion of the admissions. Locally distilled gin (ogogoro) was the commonest form of poisoning followed by kerosine. Cases of malnutrition admitted were those who were very severely malnourished, or those with associated infections or other complications that required emergency treatment before such cases were transferred to the Nutrition Rehabilitation Unit.

Discussion

Much has been written about morbidity and mortality in children in developing countries (Gans, 1961; Dean 1967; Ransome-Kuti, 1972; Kaine and Okoli, 1975; King, 1966; Obi, 1979). These authors have all concluded that as a result of the prevailing socio-economic situation in these countries where ignorance, poverty and diseases form a vicious web, many of our children die or suffer severely from diseases which are mainly preventable. In contrast to the observations by Gans (1961) in Lagos, Dean (1967) in Calabar and Ransome-Kuti (1972) in Lagos, respiratory infections was the commonest paediatric emergency in the present series.

The relatively low mortality rate of 2.6 per cent from gastroenteritis in the present series is close to one of 2.5 per cent reported by Ransome-Kuti (1972) in Lagos.

Measles with its complications was one of the major paediatric emergencies in the present series. Other authors however, have reported lower percentage of emergency admission due to measles. Ransome-Kuti (1972) reported 3 per cent, Gans (1961) 7.8 per cent, and Dean (1967) reported 2.6 per cent. The high mortality rate observed in our series is in agreement with the observations of Morley (1969) in Ilesha, Effiong (1975) in Ibadan and Obi (1979) in Benin.

Neonatal tetanus, neonatal jaundice and neonatal sepsis reported as very common causes of paediatric emergency admissions in other published series (Ransome-Kuti, 1972; Kaine and Okolie, 1975), were not prominent in our

series because of the existence in UBTH of a neonatal intensive care unit into which such children were admitted directly.

The referral of only 2.7 per cent of the attendance at the GOPD indicates a good screening procedure which prevents the unit from being turned into a general paediatric clinic.

In spite of the rather inadequate facilities in the unit, 78 per cent of desperately ill children were salvaged. In this regard, the unit has thus successfully fulfilled its major objective.

Rapid disposal of patients could not be achieved since the average stay in the unit was 4.2 days, and only about 12 per cent were transferred to the wards. The main reason for this was the inadequate number of beds in the main wards to which the patients could be transferred.

From the present study, it is concluded that for an effective and successful emergency unit,

- (a) the paediatric general out-patient department should be manned by doctors with adequate paediatric experience who would undertake proper screening of patients,
- (b) there should be an increase in the number of ward beds to which patient requiring treatment for longer than 24 hours should be transferred,
- (c) there should be adequate laboratory facilities for a 24-hour service as well as provision of essential resuscitation equipment for prompt and effective management of these cases.

References

- Dean, N. M. B. (1967). General Practice Paediatrics in Tropical Town of Calabar. *Pediatrics*, **13**, 4-18.
- Effiong, C. E. (1975). Immediate prognosis of severe cases of measles admitted to University College Hospital Ibadan. *J. Nat. Med. Ass.*, **67**, 455-459.
- Gans, B. (1961). Paediatric problems in Lagos. *W. Afr. Med. J.*, **10**, 33-46.
- Kaine, W. and Okolie, J. (1975). A review of the causes of hospitalisation as a guide to the pattern of disease in Eastern Nigeria. *Nig. Med. J.*, **7**, 205-209.
- King, M. (1966). Medical Care in Developing Countries. Oxford Univ. Press, pp. 13-15.
- Morley, D. (1969). Severe measles in the Tropics. *Brit. Med. J.*, **1**, 363.
- Obi, J. (1979). Measles in Hospital practice in Nigeria. *Trop. Env. Child Health*. In press.
- Ransome-Kuti, O. (1972). The problem of paediatric emergencies in Nigeria. *Nig. Med. J.*, **2**, 62-70.