

Comparative Study of the Pattern and Severity of Childhood Diseases seen at the Children's Emergency Room of the Lagos University Teaching Hospital in 1967 and in 1982

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Summary

Oviawe O. Comparative Study of the Pattern and Severity of Childhood Diseases seen at the Children's Emergency Room of the Lagos University Teaching Hospital in 1967 and in 1982. *Nigerian Journal of Paediatrics* 1987; 14:41. Comparison of the data obtained from the records of admissions and discharges at the Children's Emergency Room of the Lagos University Teaching Hospital for 1967 and those for 1982 showed that the pattern of childhood emergencies had remained unchanged and that the children in the latter study period were more severely affected by their illnesses. This was probably because in 1982, more children presented late and this contributed to the high mortality within 24 hours of arrival. Furthermore, the incidence of measles, tetanus and prematurity had significantly increased in 1982. It is suggested that the present efforts by government to eradicate preventable diseases through the Oral Rehydration Therapy and the Expanded Programme on Immunisation programmes should be sustained and that similar attention should be given to a control of acute respiratory infection programme.

Introduction

It is known that Nigerian children suffer from and die of diseases that are easily preventable¹ and that many of them die within 24 hours of presentation at emergency centres. This is in

contrast with the pattern of childhood emergencies in developed countries² where upper respiratory tract infections and accidental poisons constitute the largest proportion of cases and the children are not critically ill on presentation. The reasons for the pattern of illness in Nigerian children have been speculated upon by many authors^{3 4}. In 1972, Ransome-Kuti⁵ reported that the most common paediatric problems seen in Lagos were gastroenteritis, malaria, measles, tetanus, febrile convulsion and bronchopneumonia and noted that many of the cases ended fatally within 24 hours of seeking medical attention. Since that report, tremendous growth has occurred in the number

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of hospitals and specialised health personnel in Nigeria. For example, by 1979, the number of doctors and nurses per 100,000 of population had increased by more than 100% and 50% respectively, over the figures for 1968, while the number of hospitals had similarly increased by more than 100% over the same period⁶. Furthermore, Nigeria has adopted a new health delivery policy that is primary health care oriented.

In view of these observations, a change for the better in the pattern and severity of paediatric emergencies in Nigeria would be expected. This study was designed to ascertain whether such a change has occurred and to suggest ways of further reducing the incidence of paediatric emergencies in Nigeria.

Materials and Methods

The data for the study were obtained from the record of admissions and discharges at the Children's Emergency Room (CHER), Lagos University Teaching Hospital, from January 1 to December 31, 1982. The information extracted from the record included the age, sex, diagnosis and outcome of management. Surgical emergencies and cases of neonatal hyperbilirubinaemia were excluded from the study. Also excluded were 196 cases with incomplete information. The information so obtained was compared with the published observations by Ransome-Kuti⁵ whose study covered the period, April 1967 to March 1968. The data were compared using the standard error of difference between percentages.

Results

Age and sex distribution

Of the 9,152 patients seen in 1982, 4,410 (48.2%) were aged less than one year, while 3,857 (42%) were between one and five years of age. Seventy-one infants presented within 3 hours of birth and the upper age limit was 16 years. There was a male preponderance; 5,172 (56.5%) were males and 3,980 (43.5%) were females.

When these variables were compared with those of the previous study (Fig), it was found that the sex ratio was similar and the numbers of children who presented at the various age groups were also similar except those above 5 years of age for which a significantly higher number presented in 1967/68 ($p < 0.05$).

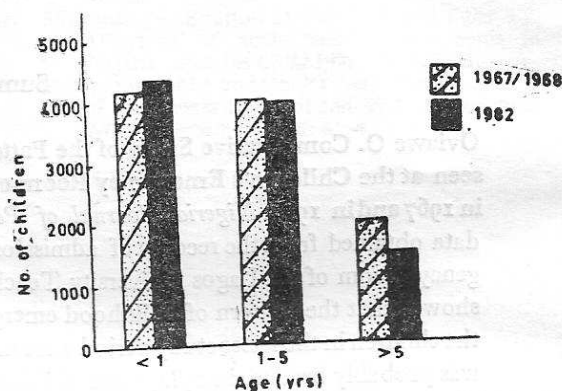


Fig. Ages of children admitted to the Emergency Room in 1967/68 and 1982.

Diseases/Conditions seen

The total number of admissions for 1982 was 9,152 as compared with 10,135 admissions in 1967/68. The pattern of the 10 major diseases/conditions seen in 1967/68 as compared with that of 1982 is shown in Table I. There was a general increase in the frequency of all the diseases/conditions over that in 1982 but more so for measles, tetanus, prematurity and sickle cell disease; the incidence (per cent) had almost doubled for measles and more than doubled for these other diseases. While diarrhoeal diseases and bronchopneumonia together accounted for about one third of the total admissions in both study periods, upper respiratory tract infection, laryngo-tracheo-bronchitis (croup), accidental drug ingestion and foreign body aspiration were less common and in 1982, these latter diseases accounted for less than 1% of all admissions.

TABLE I

Ten Major Diseases/Conditions in Children admitted into CHER* in 1967/68 and in 1982

Disease/Condition	1967/68		1982	
	No of Patients	% of Total Admissions	No of Patients	% of Total Admissions
Gastroenteritis	1652	16.3	1759	19.2
Bronchopneumonia	1237	12.2	1341	14.7
Febrile convulsion	572	5.6	605	6.6
Malaria	434	4.3	627	6.9
Measles	280	2.8	520	5.7
Bronchiolitis	189	1.9	284	3.1
Meningitis	141	1.4	220	2.4
Sickle cell disease	138	1.4	410	4.5
Tetanus (all ages)	72	0.7	213	2.3
Prematurity	29	0.3	207	2.3

*Children's Emergency Room

Outcome of Management

Table II compares the outcome of management following admission to the emergency room (CHER) in 1967/68 and in 1982. The average number of days spent in the CHER was 2 days in 1967/68 and 4 days in 1982. During the 1967/68 study period, 6,391 (63.1%) cases were discharged home within 72 hours of arrival; this proportion is significantly higher than the 4,558 (49.8) cases discharged home within the same period in 1982 ($p < 0.01$). Nine hundred and two (8.9%) cases were transferred as a result of severity of illness, from CHER to the wards for further management in 1967/68; this proportion is significantly smaller than the 1,847 (20.2%) cases so transferred in 1982 ($p < 0.001$). Of the 10,135 cases seen in 1967/68, 2,391 (23.6%) improved remarkably in CHER before being discharged to the outpatient's clinic for follow-up visits; in 1982,

TABLE II

Outcome of Management following Admission to the CHER in 1967/68 and in 1982.

Outcome	1967/68	1982	P
	n=10135	n=9152	
Average stay (days)	2	4	*
Discharged home within 72 hours of admission	6391	4558	<0.01
Transferred to the wards	902	1847	<0.001
Discharged to outpatient clinics	2391	2121	NS
Died	451	626	<0.05

* Insufficient data from 1967/68 study

NS Not significant

n = Number studied

2,121 (23.5%) cases were similarly discharged and the difference is not statistically significant ($p > 0.5$). In 1967/68, 451 (4.4%) cases died at the CHER; this is significantly less than the 626 (6.8%) cases that died in 1982 ($p < 0.05$). Of the latter 626, 489 (78%) died within 24 hours of presentation, mostly from complications of gastroenteritis (165 cases), measles (89 cases), prematurity (38 cases), anaemia (28 cases) and bronchopneumonia (20 cases).

Discussion

The pattern of childhood emergencies in Lagos has remained unchanged, 15 years after it was first studied. Despite the phenomenal increases which had occurred in the number of health facilities and specialist medical personnel over these years, gastroenteritis, bronchopneumonia, tetanus, measles and malaria still dominate the medical emergencies seen in the Lagos University Teaching Hospital.

The present study has shown that the proportion of critically ill children had increased during 1982 with the majority dying before effective

medical intervention could be initiated. This means that many patients were still presenting to the hospital late. Refusal to seek appropriate medical attention early could be due to parental ignorance about the dangerous nature of these diseases and a preference for traditional and spiritual methods of treatment.

The pattern and severity of childhood emergency diseases demonstrated in this study are similar to those reported elsewhere in Nigeria^{1 7}. The Primary Health Care (PHC) model of health delivery is envisaged to correct these prevailing pattern and trend of childhood illnesses. Morley⁸ has reported that this new approach to health care delivery has been effective in China and Tanzania. Furthermore, Chen and Tan⁹ reporting on the activities of village aides in medically understaffed areas of Malaysia have shown that the good effect of a well organised primary health care can be realised within two years of its inception. These beneficial effects seem to have eluded Nigeria, 5 years after accepting the concept of the PHC model.

The aetiological basis for these common diseases has its roots in the life-style of the community. Unless a positive health-related behavioural change occurs in these communities, the success of the PHC will continue to elude the country. Doctors and other health personnel can effect this behavioural change provided they are made to appreciate the full scope of the PHC model. As a first step, it is suggested that these categories of health personnel (doctors, nurses, pharmacists, nutritionists, etc) should be taught the cardinal objectives and implementation of the PHC and made to serve in disadvantaged areas for a period of not less than 3 months per annum. This period will be used to provide health education to the community and to support and supervise the community medical aides and assistants, who are otherwise, working unsupervised. Secondly, the curriculum in our medical and nursing schools should be modified so that emphasis will be on training of primary health care physicians and nurses. This calibre of

health personnel will be sufficiently motivated towards promotive, preventive and rehabilitative health care instead of the prevailing curative services. Furthermore, the relevant arm of these training institutions should be located in rural areas so as to encourage the trainers and the trainees to reside in such areas. In this way, solutions to the problems of these areas can be easily identified and effective methods designed to eradicate them. Basic social amenities should also be provided as a matter of urgency, in all communities as lack of some of these amenities contribute to the occurrence of many of the childhood diseases. Such amenities include water and electricity supply and access roads. Provision of these amenities will in addition, curtail urban migration which has resulted in the rapidly expanding slums in urban areas. The primary health care model should be pursued with more vigour especially in the areas of the expanded programme on immunisation and the oral rehydration therapy, while a similar interest should be demonstrated towards the development of an acute respiratory infection control programme.

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