

Measles at the University College Hospital, Ibadan: An Update

K. OSINUSI* AND CO OYEJIDE**

Summary

Osinusi K and Oyejide CO. Measles at the University College Hospital, Ibadan: An Update. *Nigerian Journal of Paediatrics* 1986; 13:53. An analysis of 6,894 cases of measles seen at the General Outpatients Department of the University College Hospital (UCH), Ibadan, over a period of 5 years (January 1979–December 1983) has shown a definite pattern of seasonal variation in the number of cases seen. The peaks each year were in the months of February and March. The greatest proportion of cases occurred in children aged 12 months and below. The frequency by age gradually decreased as the age increased. In a related study of mortality among 376 children admitted with measles into the Children Emergency Room of the UCH, the case fatality rate over a 3-year period (1981–1983) was 29.3% and mortality was highest in the 13–24 months age group. Although the number of cases admitted as a proportion of the total number of admissions was constant, the mortality rate increased steadily over the study period. The high mortality in all age groups calls for greater efforts at immunizing all children.

Introduction

MEASLES remains a major cause of mortality in African children. While Morley, Martin and Allen¹ in 1967, attributed 15.5% of deaths in African children aged below 5 years to measles, Adeyokunnu, Taiwo and Antia² reported that 3.6% of deaths among children admitted into

the University College Hospital (UCH), Ibadan, between January 1969 and December 1973 was due to measles. Other reported overall and in-patient mortalities due to measles have ranged from 2.2–18.6% and 12.3–46.6% respectively.^{3–7} Hendrickse and Sherman⁴ reported a mortality of 46.6% in children admitted to the UCH, Ibadan, with severe measles in 1962 and 1963, although ten years later, Effiong⁷ from the same hospital, reported a mortality of 18.9%. This was the picture of measles as seen in the hospital in the 1960s and 1970s. Since that period and especially during the past few years, the emphasis on health care in the country has shifted to the

College of Medicine, University of Ibadan, Ibadan

Institute of Child Health

* Research Fellow

Department of Preventive and Social Medicine

** Senior Lecturer

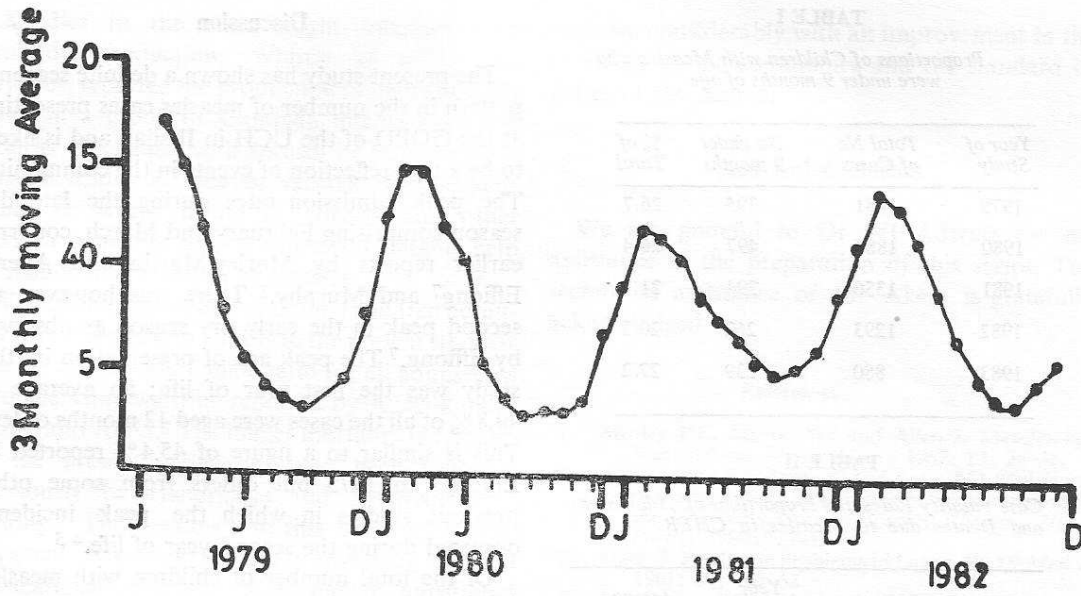


Fig 1. Seasonal variation in the number of cases of measles seen at the GOPD. Note: D = December.

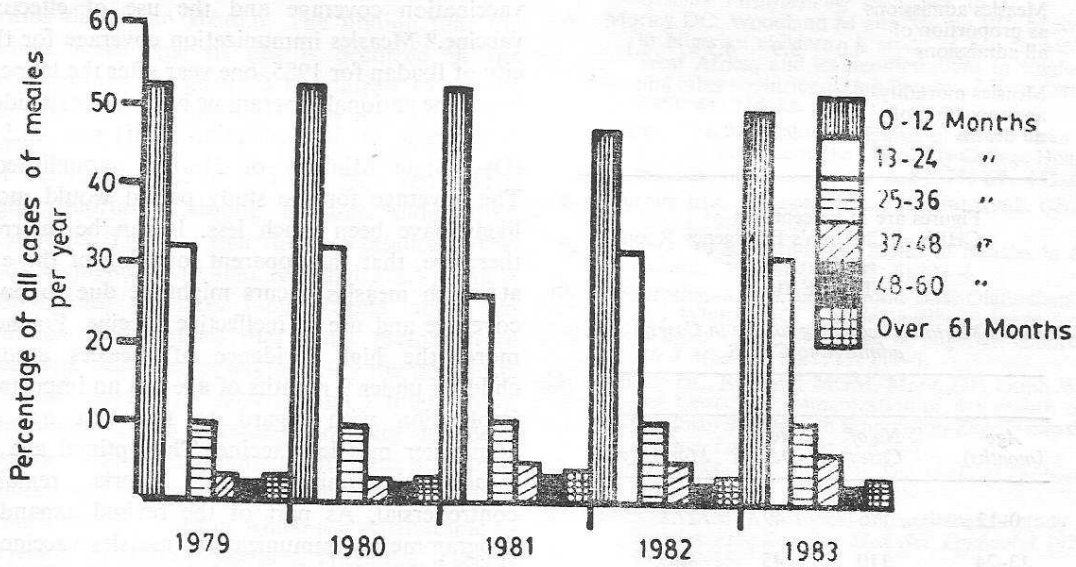


Fig 2. Age distribution of cases of measles seen in the GOPD.

TABLE I

Proportions of Children with Measles who were under 9 months of age

Year of Study	Total No of Cases	No under 9 months	% of Total
1979	1481	395	26.7
1980	1884	497	26.4
1981	1356	294	21.7
1982	1293	262	20.3
1983	880	239	27.2

TABLE II

Case Fatality Rates and Proportions of Admissions and Deaths due to Measles in CHER

	Year			Average (1981-83)
	1981	1982	1983	
Case fatality rate	29.2	32.1	40.8	34
Measles admissions as proportion of all admissions	4.0	3.9	4.5	4.1
Measles mortality as proportion of all deaths	11.5	9.1	9.4	10

Figures are in percentages
CHER = Children's Emergency Room.

TABLE III

Measles Mortality according to Age in Cases admitted to CHER

Age (months)	No of Cases	No of Deaths	% Mortality
0-12	176	49	27.8
13-24	110	45	40.9
25-36	24	8	33.3
> 36	17	6	35.3

CHER = Children's Emergency Room

Discussion

The present study has shown a definite seasonal pattern in the number of measles cases presenting at the GOPD of the UCH in Ibadan and is likely to be a true reflection of events in the community. The peak admission rates during the late dry season comprising February and March, confirms earlier reports by Morley, Martin and Allen,¹ Effiong⁷ and Murphy.⁸ There was however, no second peak in the early dry season as observed by Effiong.⁷ The peak age of presentation in this study was the first year of life; an average of 49.8% of all the cases were aged 12 months or less. This is similar to a figure of 45.4% reported by Effiong⁷ in 1975 but differs from some other previous studies in which the peak incidence occurred during the second year of life.^{4, 5}

Of the total number of children with measles, 24.6% were less than 9 months old. This proportion is higher than reported in other Nigerian series.¹⁴ In the Gambia, the average age at which measles occurred was raised through high vaccination coverage and the use of effective vaccine.⁹ Measles immunization coverage for the city of Ibadan for 1985, one year after the launching of the national programme of revised expanded programme on immunization (EPI) was 43.5% (Oyo State Ministry of Health, unpublished). The coverage for the study period would most likely have been much less. It can be inferred therefore, that the apparent lowering of the age at which measles occurs might be due to poor coverage and use of ineffective vaccine. Furthermore, the high incidence of measles among children under 9 months of age has an important implication with regard to the best age to administer measles vaccine. The optimal age of measles immunization in Nigeria remains controversial. As part of the revised expanded programme on immunization, measles vaccine is presently given at the age of nine months. Because of the occurrence of measles in very young infants however, it has been suggested that measles immunization should be given between the ages of five and six months,^{7, 10} a period when maternal

antibodies in the child might interfere with antibody production. Whittle *et al*,¹¹ have however, reported the production of high antibody levels in a group of Gambian infants aged 4–6 months vaccinated with aerosol of Edmonston–Zagreb strains of measles vaccine. This vaccine could be worth trying in Nigeria and other African countries and if successful, might help to reduce the incidence of measles.

The male preponderance among children admitted with measles into CHER in the present study, is similar to the male:female ratio for all admissions into the same ward as reported by Adeyokunnu, Taiwo and Antia.² The higher mortality in females in the present series has also been reported previously by Hendrickse and Sherman⁴ and Effiong.⁷ The reasons for this are not readily apparent. A prospective study involving age and sex-matched children with similar nutritional status and complications may shed more light on this finding.

The average case fatality of 34% over the three-year study period, indicates that measles is still a serious disease in Ibadan. The finding that the highest percentage of deaths occurred in the 12–24 months age group is in contrast to reports from developed countries where mortality from measles is higher in the younger children,^{12 13} but similar to that of Effiong⁷ who reported a higher mortality among children older than 12 months. The fact that the case fatality in this study is higher than that reported (18.9%) in a similar study from the same hospital about ten years earlier,⁷ implies that some factors were operating which adversely affected the prognosis in these cases. The factors which might have contributed to the increased mortality include a possible decline in the nutritional status of Ibadan children and further deterioration in the standard of medical care, both of which are attributable to the recent economic difficulties. Therefore, it seems most likely that the prognosis of measles will

improve considerably with an improvement in the economy of the community and the standard of living of the people.

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