

INCREASED RATES OF GROWTH OF ABORIGINAL CHILDREN IN THE KIMBERLEY REGION

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In 1982 we reported that Aboriginal children living in remote communities in the Kimberley region of Western Australia showed weights for age distributed around the 10th percentile of the NCHS(USA) grids whilst stature for age was distributed around the 25th percentile. Nutritional deficits appeared to be partly responsible for the apparent retardation in the children's growth and some specific nutrient deficits were identified (Smith et al. 1982). Reference to earlier measurements by other workers (Abbie, 1979) suggested that this state of affairs had persisted at least for several decades and the further possibility was considered that the rather specific growth pattern revealed might be genetically specified.

Between 1981 and 1985 measurements of weight and height were carried out in 332 male and 290 female Aboriginal children between one year and 17 years of age. From one to seven observations were recorded for each child over this period and an arithmetic mean height, weight and age was calculated for each. These values were used to construct cross sectional percentile grids of weight for age and height for age after combining with supplementary data obtained from 100 males and 90 females aged from two years to 25 years, measured once during 1984 or 1985. Percentile grids from 4 years to 16 years were constructed by first determining for each sex the standard deviations of the height and weight distributions as functions of age and then by assuming that the shape of the frequency distributions changed with age in a similar way to those of the NCHS study. The smoothed Aboriginal percentiles showed sharply reduced weights and heights for age compared with the NCHS values.

For each location the longitudinal data were plotted on the new Aboriginal percentile grids. The longitudinal and cross sectional estimates of growth showed excellent agreement in both males and females for both height and weight up to 11 years of age, but after that age the longitudinal growth parameters angled strongly upward. The data indicate a widespread change in the growth rate of Aboriginal children in the Kimberley region between 1981 and 1985 and demonstrate that the potential for faster growth has existed for many years.

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