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PROCEEDINGS OF THE NUTRITION SOCIETY

ABSTRACTS OF COMMUNICATIONS

A Scientific Meeting was held at the University of Aberdeen on Tuesday–Friday, 11–14 July 1995, when the following papers were presented. These abstracts arrived too late for inclusion in Volume 55 no. 1A.

All Abstracts are prepared as camera-ready material by the authors.

Growth and nutritional status of Aboriginal children in the Kimberley region of Western Australia from 1969-1993. By E. K. ROUSHAM¹ and M. GRACEY,² ¹*Department of Anatomy and Human Biology, The University of Western Australia, Perth, Western Australia, 6907,* ²*Aboriginal Health Branch, Health Department of Western Australia, Perth, Western Australia, 6001*

Mortality and morbidity rates among the Aboriginal population of Australia far exceed those of the non-Aboriginal population. Despite considerable improvements in Aboriginal infant mortality there is still a wide discrepancy between Aboriginal and non-Aboriginal populations (19.2 per 1000 and 5.0 per 1000 respectively in 1991).

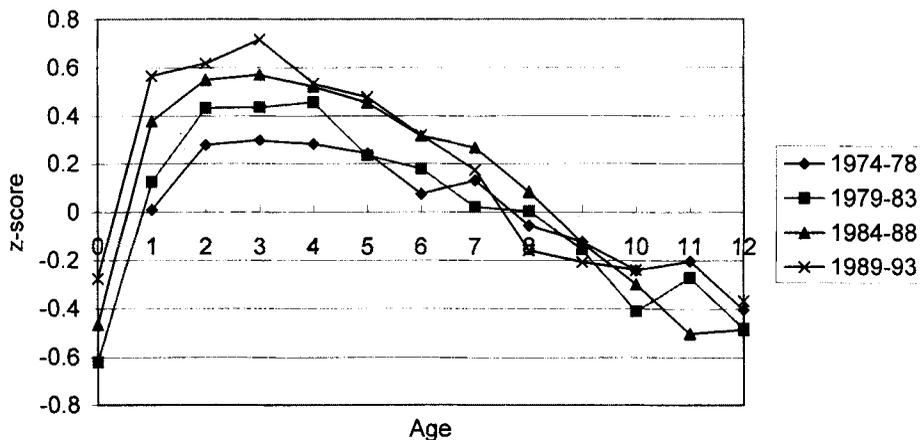
The present paper documents the growth and nutritional status of Aboriginal children from the remote Kimberley region in the north of Western Australia over the past 25 years. From 1969 to 1993, anthropometric data were collected by community health nurses from all settlements in the region. Child weight and length/height were measured from birth to 5 years of age. Weight-for-age, height-for-age and weight-for-height z-scores of the NCHS reference values were calculated from a total of 54000 records and analysed according to 5-year cohorts.

The proportion of low-birth-weight babies (<2500g) in the study population has significantly decreased from a maximum of 14.1% in 1979-83 to 10.1% in 1989-93 ($\chi^2=12.62$, $P<0.001$). Birthweight in the most remote communities has also improved in the last 10 years such that there are no longer any significant differences between the mean birthweights in town, semi-remote and remote communities of the Kimberley.

The pattern of growth from 1 to 60 months has changed little in the past 25 years. Mean weight-for-height z-scores are above the reference median at birth, but decline steadily over the first 12 months of life. In the 1989-93 cohort, the mean height-for-age and weight-for-age and weight-for-height z-scores at 12 months were minus 1.22, minus 1.19 and minus 0.37 respectively.

In sum, improvements in Aboriginal child health are indicated by reduced infant mortality, increased birth weight and lowered rates of infectious diseases. Growth in the first five years of life, however, has not shown any substantial improvement. The poor growth and nutritional status of Aboriginal children in the Kimberley is a reflection of the social, economic and health disadvantages of Australian Aboriginal communities.

Weight-for-height z-scores of children aged 1-12 months from 1974-1993*



* Sample sizes in the 1969-73 cohort too small for inclusion

Sex differences in nutritional status in rural Bangladesh: the influence of socio-economic status.

By E. K. ROUSHAM, *Department of Anatomy and Human Biology, The University of Western Australia, Perth, Western Australia, 6907*

A sex bias in the health of children in several South Asian countries has been highlighted by research over the last two decades. In southern Bangladesh, female children have been reported to experience high mortality, poor health care and reduced food intakes compared with their male counterparts (Chen *et al.* 1981).

The influence of socio-economic status on female growth and nutritional status was investigated in a sample of 1402 children from 2-5 years of age in a rural area of Jamalpur district, northern Bangladesh. Height, weight and mid-upper arm circumference values were measured every month for a period of 16 months. Z-scores of height-for-age, weight-for-age and weight-for-height were calculated from the NCHS reference values. Land ownership, parental occupation and parental education were recorded as indicators of socio-economic status.

More than half of the fathers in the study (56%) were landless wage labourers. Female children from landless households had a significantly lower mean height-for-age and weight-for-age than all other children (male landless, male land-owning and female land-owning). This difference did not relate to family size since landless households had significantly fewer children than landowning households (3.82 and 4.53 children respectively; $t = 4.94$, $P < 0.001$). There was a statistically significant interaction between land ownership and sex in relation to nutritional status ($P < 0.005$). That is, the combination of being female and being landless had a more detrimental effect on nutritional status than the effect of either variable individually.

After 16 months, there was evidence of catch-up growth among female children from landless households. Landless females grew significantly more in height and weight than landless males ($P < 0.05$). These findings are particularly important in the light of the disastrous floods which took place shortly before the study. Under these conditions, female children of poor socio-economic status appear to have experienced the greatest disadvantage in terms of nutritional status. This study suggests that female disadvantage is not universal in rural Bangladesh, but instead is strongly influenced by socio-economic status and by changes in economic security.

n	Weight-for-age			Height-for-age			
	Group	Z-score	2 1 3 4	Group	Z-score	2 1 3 4	
355	2	-2.75		2	-3.14		
370	1	-2.47	*	1	-2.71	*	
310	3	-2.46	*	3	-2.64	*	
327	4	-2.45	*	4	-2.61	*	

1, male landless; 2, female landless; 3, male landowning; 4, female landowning.

* Denotes pairs of groups significantly different at the 0.05 level.

Two-way interaction: land ownership x sex, $P < 0.005$.

Chen, L.C., Huq, E. & D'Souza, S. (1981). *Population and Development Review* 7, 55-70.