

Weight and height curves for Malaysian schoolchildren

INTRODUCTION

THERE IS GOOD EVIDENCE (Jelliffe 1966) that the state of nutrition and health of a child affects his rate of growth. The position of a child on a growth curve relative to other children of the same age therefore gives indirect evidence of his wellbeing. However, growth curves for Malaysian school children are not readily available. The present study gives standards for height and weight of a privileged group of school children.

MATERIAL AND METHODS

The data used in this study were from children in schools in Kuala Lumpur and Petaling Jaya. Boys and girls from all ethnic groups were included. Only children from families with an income greater than \$500 a month were considered, as this gave a group of relatively privileged children, who should be free from malnutrition, heavy worm loads and other factors known to retard growth.

The children were weighed and measured by class teachers in the schools, using equipment already in the schools. We were not able to check the accuracy of this equipment. The data were punched on to cards, and sorted to produce percentile charts of height and weight.

RESULTS

Data were available from 709 boys and 550 girls. The ethnic group, sex and age distribution of the sample is shown in Table 1.

The growth curves for height and weight are shown in Figures 1-4. In each figure, the 10th, 50th and 90th percentile lines are shown. The 50th

by
S.T. Chen
and
A.E. Dugdale

Department of Paediatrics,
University of Malaya,
Kuala Lumpur.

percentile line has been drawn so that 50% of the children at a given age are below that level of weight or height. Similarly, 10% fall below the 10th percentile line and 90% below the 90th percentile line.

In each figure, the line marked with asterisks is the 50th percentile line for the Stuart-Stevenson standard, which was derived from American children (Nelson 1964).

DISCUSSION

The children in this study came from relatively privileged homes. As growth is influenced by good nutrition and lack of disease, these children should be taller and heavier than most children in Malaysia. Many children, particularly in rural areas, will appear shorter and lighter than the average of these growth charts, because of their poor nutritional and social conditions.

As the weights and heights were measured on equipment which has not been checked for accuracy, some caution must be used in interpretation of the results. If the errors in the equipment were random, the 50th percentile line should be reasonably accurate, but the 10th percentile line will be lower and the 90th percentile line higher than they should be.

WEIGHTS OF UPPER INCOME MALAYSIAN SCHOOL CHILDREN - MALES ALL RACES

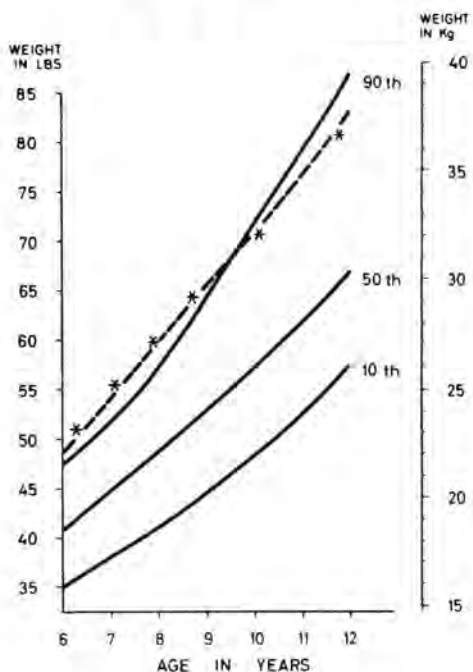


Fig. 1: The percentile charts for weight of boys. The 10th, 50th and 90th percentile levels are shown. The line marked with asterisks is the 50th percentile of the Stuart-Stevenson standard.

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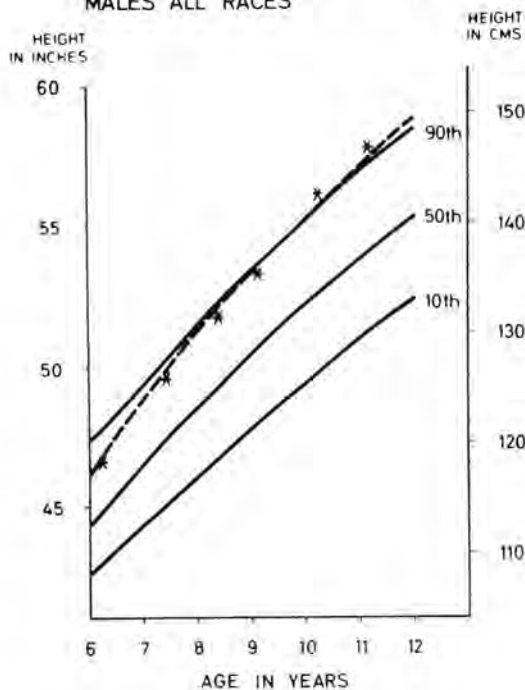


Fig. 2: The percentile charts for height of boys. The 10th, 50th and 90th percentile levels are shown. The line marked with asterisks is the 50th percentile of the Stuart-Stevenson standard.

The data from American studies show that children in Malaysia, even from relatively privileged families, are smaller and lighter for age than those in American studies. Similar results have been found in infants (Dugdale 1969) and in pre-school children (McKay et al, in press). It seems likely that this difference will diminish as the standards of nutrition and health improve in Malaysia.

Copies of the growth charts are available from the authors.

ACKNOWLEDGEMENTS

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REFERENCES

Dugdale, A.E. "The weights of Malaysian infants up to one year". *Med. J. Malaya*, XXIII, 244. 1969.
 Jelliffe, D.B. "The assessment of the nutritional status of the community". *W.H.O. Geneva*. 1966.
 McKay, D. et al "Comparative growth achievement of Malay pre-school age children" (in the press).
 Nelson, W. "Textbook of Pediatrics". 8th ed. 1964 pub. Saunders, Philadelphia.

SUMMARY

Height and weight charts for Malaysian children aged from 6-12 years are presented.

WEIGHTS, HEIGHTS OF MALAYSIAN SCHOOLCHILDREN

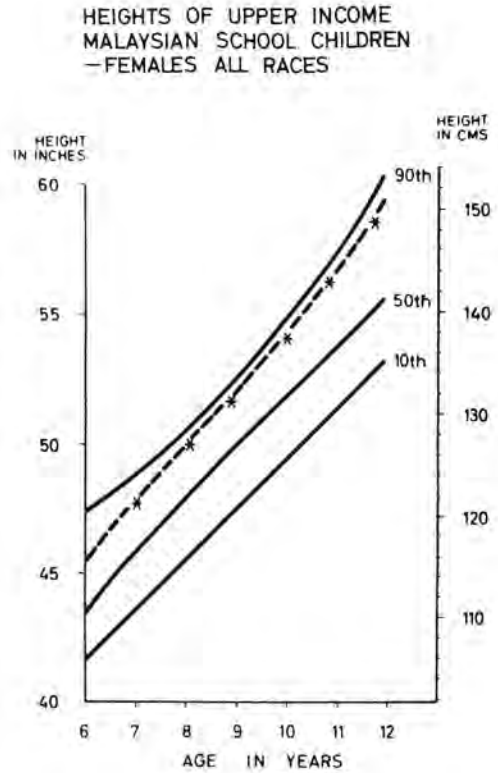
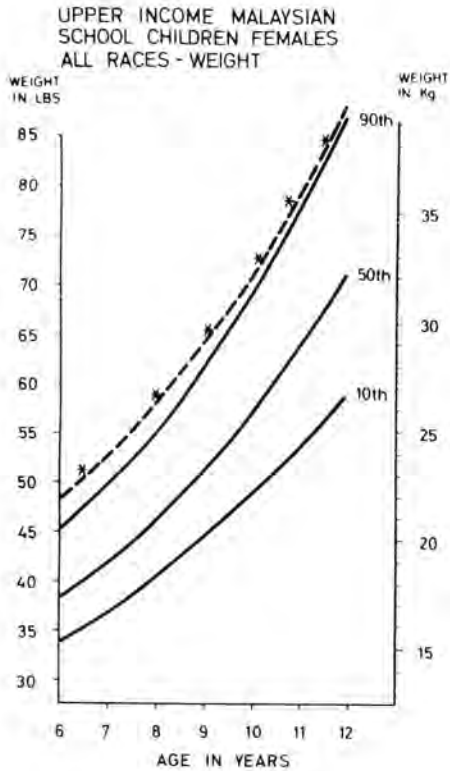


Fig. 3: The percentile charts for weight of girls. The 10th, 50th and 90th percentile levels are shown. The line marked with asterisks is the 50th percentile of the Stuart-Stevenson standard.

Fig. 4: The percentile charts for height of girls. The 10th, 50th and 90th percentile levels are shown. The line marked with asterisks is the 50th percentile of the Stuart-Stevenson standard.

Age in years	6		7		8		9		10		11		12	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Ethnic Group														
Malay	34	25	40	26	40	31	35	37	31	27	39	31	1	7
Chinese	56	41	57	46	64	36	60	60	52	44	35	42	0	0
Indian	27	9	17	20	17	15	26	17	24	6	25	8	2	0
Others	4	4	4	3	7	6	5	4	3	3	4	2	0	0

Table 1: The age, sex and ethnic group distribution of the children in this study.