

THE RELATIONSHIP OF OBESITY TO EATING HABITS IN HEALTHY ELEVEN
YEAR OLD CHILDREN

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New Zealand children have a high incidence of obesity and available evidence points to an abundance of food. This prompted a dietary survey of 11 year olds in Auckland with the results being correlated with anthropometric measurements and socio-economic status. In 1976 100 children were selected on the following criteria: (a) in standard 4 (b) turning 11 that year (c) on no special diet (d) a member of one of the 4 major racial groups in Auckland (e) attended school on the day prior to interview so that a 24 hour recall of diet while at school could be obtained. Children at 6 representative schools satisfying the criteria were then drawn by random number tables to obtain a sample of 53 boys and 47 girls with an approximately equal distribution of race and socio-economic status as found in the Auckland area by census.

All were seen individually for 30 minutes in which dietary intake was recorded and the children weighed and measured. Height and weight percentiles were calculated and weight was also expressed as a percentage of Ideal Body Weight (I.B.W.) for height and age. Height-weight percentiles both as a group and by sex showed normal distributions. I.B.W. was not normally distributed with 22 being greater than 120% I.B.W. Analysis of these compared with those between 80 and 120% I.B.W. showed that the obese ate significantly less calories and consumed an equal quantity of protein. Thus they consumed a greater proportion of their calories as protein. This is against the so called "empty calories" theory and in accord with other workers who have pointed out that obese children do not eat excessively.

Looking at patterns of eating the children ate very similar fractions of their calories at breakfast 18.5% (+ 8.0), lunch 23.0% (+ 10.4) and dinner 35.2% (+ 12.4). 19.1% (+ 8.2) of the daily calories had been eaten in some way or other before school started. Examination of protein intakes showed that breakfast and lunch contributed 19.5% (+ 10.3) and 18.0% (+ 11.5) of daily protein but almost half (47.2% + 15.9) the daily protein was being eaten at dinner. Sex differences were not striking but there was a tendency for girls to eat a higher proportion of their calories in the mid-morning and for boys to take more on their way to and from school.

Of the 9 possible eating times identified by far the majority had something to eat at each major meal 91 of 100 had breakfast, 99 lunch and 98 dinner. Most ate 5-6 times per day and none ate less than 3, or more than 8 times. Thus the eating habits of these children fit that usually perceived as being "good" but 22% were obese. This plus the fact that the obese ate significantly less calories suggests that diet alone is not responsible for obesity in this group of children.