

## COMPARISON OF METHODS TO DETERMINE THE INCIDENCE OF OBESITY IN PRESCHOOL AGED CHILDREN

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Children who are overweight and obese are more likely to be obese in later life compared with their normal weight peers (Taitz 1983). Defining the precise point at which a child is considered overweight or obese is not an easy task. Often the diagnosis of obesity is made by visual assessment but this may be coloured by the social preference of the time. A number of methods of assessment consequently have been devised, all having inherent problems. Irrespective of the index used it is important to realize that these are simply arbitrary definitions and it is impossible to identify a specific value that indicates abnormal fat disposition. This is even more difficult in children where growth variations may mask the true situation. This study compared a variety of techniques which could be used to assess the incidence of obesity.

Two hundred and forty-eight children (mean age 5.1 years, range 3.3-6.4 years) from Brisbane preschools were weighed in light clothing on Seca digital scales. Height was measured in bar feet according to the protocol listed by ACHPER (Johnston 1985) using the stadiometer attached to the scales. The prevalence of overweight and obese children using relative weights is summarised in the following table.

Relative Weight	Standard Used	Percentage Prevalence		
		Males	Females	Average
≥ 110% <sup>1</sup>	NH&MRC	13.1	18.8	15.9
≥ 120%	NH&MRC	0.5	5.9	6.2
≥ 110%	ACHPER <sup>3</sup>	11.2	12.9	12.0
≥ 120%	ACHPER	4.7	4.0	4.5
≥ 110% <sup>2</sup>	NH&MRC	4.7	5.0	4.9
≥ 120%	NH&MRC	1.9	1.9	1.9

1. Using the 50th percentile weight for age as average weight.
2. Using the 50th percentile weight for the age at which the height represents the 50th percentile.
3. ACHPER values were extrapolated from the 7-15 year old data.

Additionally weight for age and BMI data were calculated giving a range for the incidence of obesity from 15.9% down to 2.4%. It is difficult to recommend which index should be used but relative weight where height has been considered and weight is above the 97th or 95th percentile would appear to be adequate.

TAITZ L.S. (1983) 'The Obese Child', 1st edition, (Blackwell Scientific Publications: Great Britain)

JOHNSTON T.E. (1985) Ann.Int.Med. 103: 1068.