

Letters to the Editor

Assessment of Nutritional Status of Adolescents

The article "Nutrient intake amongst adolescent girls belonging to poor socio-economic group of rural areas of Rajasthan"(1) made some interesting observations. There is no denying the fact that chronic energy deficiency is widely prevalent in children and adolescents in our country and is of paramount importance in adolescent girls given the long term effect it has on their own health and their offspring. However, the choice of cut-off point Body Mass Index (BMI) below 18.5 as an indicator of chronic energy deficiency appears inappropriate.

The age related curve of BMI shows that BMI decreases from the age of 1 year until 4-6 years when a trough occurs after which BMI increases steadily throughout till maturity(2). Age and gender specific

standardized curves of BMI of white children are available and by looking at these, one can appreciate that with the use of 18.5 as a cut off point, one would include far too many normal girls as undernourished (Table I). Studies on affluent girls in India also show that BMI rises throughout adolescence; hence age specific curves are required to assess growth and body proportions(3,4).

The diagnosis of undernutrition in adolescents is far from simple considering the variability in onset of puberty and growth spurt. BMI of >85th or 95th centile has been often used as an indicator of obesity. BMI of <5th or 10th centile may be similarly used as an index of undernutrition. Energy protein index was found to be more reliable for assessing the nutritional status of

TABLE I—BMI of Adolescent Girls

Age (yrs)	Affluent girls (India)		NHANES survey (USA)	
	Mean	SD	5th centile	95th centile
11	16.8	2.74	14.6	17.8
12	17.5	2.66	15.0	18.3
13	18.4	3.16	15.4	18.9
14	19.0	2.71	15.7	19.4
15	19.5	2.38	16.1	19.9
16	20.0	2.73	16.4	20.2
17	20.2	2.74	16.9	20.7
18	21.0	2.93	17.2	21.1

The depicted values pertain to References 2 and 3.

adolescents but is rather cumbersome to calculate(5).

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REFERENCES

1. Chaturvedi S, Kapil U, Gnansekaran N, Sachdev HPS, Pandey RM, Bhanti T. Nutrient intake amongst adolescent girls belonging to poor socio-economic group of rural areas of Rajasthan. *Indian Pediatr* 1996;33:197-201.
2. Hammer LD, Kraemer HC, Wilson DM, Ritter PL, Dornbusch SM. Standardized percentile curves of body mass index for children and adolescents. *Amer J Dis Child* 1991; 145: 259-263.
3. Growth of affluent Indian girls during adolescence. New Delhi, Nutrition Foundation of India Series no. 10, 1989.
4. Kapoor G. A Study of Nutritional Status of Adolescents. Thesis for M.D: (Pediatrics) University of Delhi, 1988.
5. Qamra SR, Mehta S, Deodhar SD. Evaluation of anthropometric indices for the assessment of nutritional status of girls III. *Indian Pediatr* 1990; 27:1275-1279.