

Nutritional status and body composition of adolescent girls of district Udham Singh Nagar (Uttarakhand)

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■ **ABSTRACT :** The present study was conducted to assess the nutritional status and body composition of adolescent girls of the age group 13-17 years using bioelectrical impedance analyzer and to find out the correlation of age, family size and per capita income with the body composition parameters of the adolescent girls. A cross-sectional study was conducted among school going adolescent girls of district Udham Singh Nagar of Uttarakhand in the year 2012-13. Subjects were selected using stratified random sampling technique, taking age as a stratum, to obtain a sample size of 440 girls. Adolescent girls suffering from any chronic disease were excluded from the study. General information regarding age, education, religion, caste, family type, family size and family income was collected with the use of pre-tested interview schedule. Anthropometric measurements were taken as per standard methods. Body composition analysis was done with the use of bio scan analyzer based on BIA. Subjects were assessed for different categories of malnutrition using BMI-for-age and body fat-for-age percentile values. On the basis of BMI-for-age percentiles, 73.86 per cent subjects were found normal and 19.55 per cent girls were underweight. About 4.78 per cent girls fell in the category of overweight whereas obesity was prevalent only in 1.82 per cent girls of the present study. Per cent body fat of subjects varied from 8.68 to 44.35 with the mean value of 24.50 ± 7.97 per cent and was found positively and significantly correlated with weight ($r=0.463$) and BMI ($r=0.565$) at $p=0.01$. Age was found to have significant positive correlation with per cent fat free mass ($r=0.416$) and significant negative correlation with per cent body fat ($r=-0.416$, $p=0.01$) which indicates that with the advancement in age, the muscle mass of the girls increased with proportionate decrease in per cent body fat. Growth spurt in the adolescent girls of district Udham Singh Nagar was found at the age of 13 years. On the basis of body fat-for-age percentiles, 14.77 per cent subjects were found overweight and 3.64 per cent were obese. Underweight was found as an emerging health problem in adolescent girls of district Udham Singh Nagar which tend to increase with age.

■ **KEY WORDS:** Adolescents, Body composition, Body mass index, Obesity, Body fat

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