

electronic scales are not available, spring balance with a little modification could provide a good alternative in taking the weight of children aged 5 months to 36 months. For clinical trials or investigations which need to weigh preschool children older than 6 months in developing country settings, spring balance can be used without loss of precision. Also, spring balance is cheaper and more convenient with higher uptime and less requirement for maintenance.

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Body Composition of Pre-adolescents by Skinfold Measurements and Body Stat 1500 Analyzer

Body composition is a basic feature of the machinery of the human body. Knowledge on body composition provides valuable information for apart of clinical and research settings. Several studies have suggested relations between one of the accepted methods of determining body fat and a simpler technique, which could be widely applied. The present is aimed to describe the body composition of Pre-adolescents (9-12 years) by age, gender and to compare the agreement of BSA (Body Stat 1500 Analyzer) with the derived from Skin fold Thickness.

A total number of 450 children were selected and grouped in 3 age groups *i.e.*, 9-10 years age group, 10-11 years age group and 11-12 years age group. Each age group consists of 75 girls and 75 boys. The subjects were recruited from schools of Hyderabad and Secunderabad. Skinfold thickness was measured to the nearest 0.05 mm on the left

side of the body from sites *i.e.*, triceps, biceps, sub scapular and suprailliac by using Harpenden's caliper. The percent body fat was calculated by using the formula: Fat (%) = $[(4.95/\text{density}) - 4.5] + 100(1)$. Later body composition was analyzed using BSA unit which works on the principle of Bioelectrical Impedance Analysis (BIA) and the parameters included are fat (% and kg), Fat free mass (% and kg) and water (% and liters).

Sex related differences in body composition were observed in boys and girls. The mean fat (% and kg) was significantly ($p > 0.005$) higher in girls (42.2% and 12.3 kg) than boys (35.2% and 9.8 kg) where as the mean fat free mass was higher significantly ($p > 0.005$) in boys (64.7% and 20.1 kg) than girls (53.6% and 18 kg)(2). The mean water levels (% and liters) were also higher in boys (74.2% and 22.9 liters) than girls (68.4% and 20.3 liters).

The correlation results also showed that skin fold thickness strongly correlated with body weight (0.01%) ($r = 0.208$) and a negative correlation (0.01%) ($r = 0.208$) was observed between BSA fat mass (%), water (% and liters) and body weight. There was a positive