Adiposity and body composition in relation to physical activity status among Muslim adolescents of North 24 Parganas, West Bengal

ARGINA KHATUN1, ASHISH MUKHOPADHYAY2 AND KAUSHIK BOSE1

1 Department of Anthropology, Vidyasagar University, Midnapore
2 Department of Anthropology, Acharya Prafulla Chandra College, New Barrackpore, Kolkata

Abstract: The purpose of this study was to examine adiposity and body composition in relation with physical activity among Muslim adolescents of North 24 Parganas, West Bengal. One thousand and sixty eight school boys (n=522, PE=282 and NPE=240) and girls (n=546, PE=304 and NPE=242) aged 10 to 17 years participated in this study. The subjects were classified into eight age groups: 10-10.9 years (n = 56, 62), 11-11.9 (n = 63, 73), 12-12.9 (n = 65, 82), 13-13.9 (n = 77, 79), 14-14.9 (n = 84, 78), 15-15.9 (n = 71, 70), 16-16.9 (n = 60, 55), 17-17.9 (46, 47). All anthropometric variables were measured by following standard anthropometric procedure. Body mass index (BMI), skinfold equations were utilized to estimate percent body fat (PBF). Boys, who did not undertake regular physical exercise (NPE), had significantly greater subcutaneous adiposity, PBF, fat mass index (FMI) and sum of 5 skinfolds (S5S) than those who undertook regular physical exercise (PE). However, BMI was similar among PE and NPE boys. Girls who did not undertake regular physical exercise (NPE) had a significantly greater mean body mass index (BMI), PBF, fat mass (FM), fat free mass (FFM), fat mass index (FMI) and sum of 5 skinfolds (S5S) compared with those who undertook regular physical exercise (PE). The mean differences between NPE and PE children (boys and girls separately) of all the measurements in each age group were statistically significant (p < 0.05). We conclude that there was a decrease in adiposity, subcutaneous fat content and body composition at almost all ages of PE boys and girls compared with the children who did not undertake regular physical exercise resulting from non sedentary lifestyle.

Key words: Bengalee Muslim, adolescent, physical exercise, body mass index, percent body fat, fat mass, fat mass index.