

Title : Assessment of Body Composition and Fitness Level of Indian Adolescent Male Cricket Players (12-18 Years)

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Introduction: Performance of any sport person depends on their physical structure, body composition and physical fitness (1,2,3). Cricketer's fitness levels are above that of sedentary individual, except flexibility (4,5). Researches have shown that both provisional and international cricket players were tall, athletic built and have definite morphological characteristic among batmen, bowlers and the all-rounders. Batsmen tend to be smaller and lighter in weight although having higher body fat percentage whereas bowlers are relatively tall with long legs, broad shoulders, having lesser amount of fat in thigh and shoulders region⁶. However, no such information is available about young cricketers. The increasing popularity of cricket among adolescents makes it necessary to generate relevant information so as to facilitate better performance. Thus, the study aimed to assess the body composition and fitness level of Indian adolescent male cricket players (12-18 years).

Methodology: Anthropometrical measurements (height, weight, body fat percentage, BMI, upper and lower limbs measurements) and body composition of 50 male adolescent cricketers (12-18 years) were analysed using weighing scale, measuring tape and Tanita BIA machine. Physical fitness (muscular strength, muscular endurance, flexibility, balance, hand-eye co-ordination and aerobic endurance) was assessed using suitable techniques (push ups, curl ups, squats test, sit-and-reach, hand eye co-ordination, and grip strength and 30m sprint). Association between the parameters was calculated using SPSS version-21.

Result: Anthropometrical measurements of the participants were significantly lower than the reference values and were positively associated with physical fitness, though overall fitness level amongst the participants was poor. A positive association was noticed between body composition, BMI, height and all parameters of physical fitness. The significant positive correlation ($p > 0.05$) of height, weight and BMI with hand grip strength indicates its suitability to be a marker of performance. Muscular endurance was negatively correlated with weight but was significantly positively co-related with height and BMI indicating a need to maintain optimum body weight and skeletal-muscular body mass. But no association was seen between weight and balance; BMI and muscular endurance and hand-eye co-ordination.

Conclusion: Participants showed poor body composition and physical fitness indicating a strong need for creating awareness among them regarding suitable training and nutrition programmes. Generation of relevant data is necessary to draw conclusive interpretations and support adolescents' cricket performance.

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