

Body composition of male boxer

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A study was conducted to assess the 'body composition of boxers' from the National level competition of male boxers, held at (9th to 16th Jan 2011) the Udaipur city. A total of 119 boxers were selected purposively for the study and they were further classified in three weight categories [45-60 kg below (n=41), 60-80 kg (n=56) and 80 kg above (n=22)]. Anthropometric measurements indicated that the mean height, weight and BMI of the boxers in each weight category 45-60 kg, 61-80 kg and 80 kg above were 166.72 cm, 174.92 cm 180.39 cm and 52.82 kg, 67.91 kg, 90.22 kg and 22.31 kg/m², 22.05 kg/m², 23.06 kg/m², respectively. Anthropometric measurements comparison between all categories revealed that they had significant difference. Body composition of the subjects was noticed that the mean percentage of body fat determined as bioelectrical impedance analysis of the subjects at different weight category was 10.83 per cent, 11.10 per cent and 18.49 per cent, respectively. The mean FFM was 48.28 kg, 60.32 kg and 73.32 kg in 45 to 60 kg, 61 to 80 kg and 80 above weight category, respectively mean percentage of TBW and BMR were found 67.37 per cent, 61.81 per cent and 54.95 per cent and 1550.95±128.97 kcal/day, 1855.5±144.44 kcal/day and 2220±159.27 kcal/day, respectively. Comparison between weight categories shows that they had significance difference in each component of body composition. Boxing is weight category sports due to these reason boxers maintain their weight according to their weight category so it may be affect their anthropometry measurements and body composition. A study thus concludes that assessment of body composition is important part of athlete assessment to give idea about what should be the body composition at different weight category and help in improve performance.

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INTRODUCTION

Professional boxing is a combat sport categorized into a series of weight classes. Given the sport's underpinning culture, boxers' typical approach to "making weight" is usually via severe acute and/or chronic energy restriction and dehydration. Such practices have implications for physical performance and also carry health risks (James *et al.*, 2010).

Body composition has become an important part of athlete assessment. The amount of muscle and fat an athlete has, can

be predictive of performance. A periodic assessment of body composition also helps the athlete understand if the training regimen is causing the kinds of physical changes that are being sought (Benardot, 2006).

In athletes, body composition measures are widely used to prescribe desirable body weights, to optimize competitive performance, and to assess the effects of training (Sinning, 1996). It is generally accepted that a lower relative body fat is desirable for successful competition in most of the sports. This is because additional body fat adds to the weight of the body without contributing to its force production or energy producing capabilities, which means a decrease in relative strength. It is obvious that an increased fat weight will be detrimental in sporting activities where the body is moved against gravity (*e.g.* high jump, pole vault, volleyball spiking action) or propelled horizontally (*e.g.* running). In running at any sub maximal speed, the oxygen requirement is increased with any increment in body weight that is, oxygen consumption is increased due to the greater energy demand required to

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