

## Effect of different phases of training on body composition among university kabaddi players

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### ABSTRACT

In physical fitness, body composition are used to describe the percentages of fat, bone and muscle in human bodies. Because muscular tissue takes up less space in our body than fat tissue, our body composition, as well as our weight, determines leanness. Two people at the same height and same body weight may look completely different from each other because they have a different body composition. The aim of this study is to find out the effect of changes during different phases of training on body composition variables such as body mass index and per cent body fat. 30 University level men Kabaddi players were selected and given resistance training under different phases, conditioning, intensive, in season, and off season by manipulating the load, intensities and frequencies of selected weight training exercises. Results proved that different phases of training altered body mass index and there was significant differences between initial and in-season phase. Though per cent body fat showed reduction but they were not significant at 0.05 level at any stage. It was concluded that the different phases of training can be utilized for improving body composition variables by university level men Kabaddi players.

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The National Institute of Health recommends that a healthy adult male's body should have between 6 and 24 per cent fat and a female should have 14-31 per cent. Levels significantly above these amounts may indicate excess body fat. Athletes, leaner individuals, and more muscular individuals will have a body fat percentage lower than these levels. In general, most athletes experience greater performance benefits at body fat percentages between 7 and 19 per cent for men, and 10 and 25 per cent for women, depending on the sport. Training methods includes weight training, interval training, fartlek training, circuit training, isotonic training, isometric training and isokinetic training. The heart activity is accelerated by exercise and strengthens its fibres. Exercise also stimulates growth, and strengthens the bones, muscles, ligaments and tendons (Singh, 1991). Different activities can be carried out with different intensities which may have different effect in organism. It is better to start gradually and take more time reaching the objectives than to start at a high level drop out because of injury caused by either the intensity or frequency of the programme (Morehouse and Gross, 1975). Thus, training programmes form different phases.

### Body mass index (BMI):

The body mass index (BMI) is a heuristic proxy for human body fat based on an individual's weight and height. BMI does not actually measure the percentage of body fat. It was invented between 1830 and 1850 by the Belgian polymath Adolphe Quetelet during the course of developing "social physics". Body mass index is defined as the individual's body weight divided by the square of his or her height. The formulae universally used in medicine produce a unit of measure of kg/m<sup>2</sup>.

### Per cent body fat :

A person's body fat percentage is the total weight of the person's fat divided by the person's weight and consists of essential body fat and storage body fat. Essential body fat is necessary to maintain life and reproductive functions. The percentage for women is greater than that for men, due to the demands of childbearing and other hormonal functions. Essential fat is 3%–5% in men, and 8%–12% in women. Storage body fat consists of fat accumulation in adipose tissue, part of which protects internal organs in the chest and abdomen. The minimum recommended total body fat percentage exceeds the essential fat percentage value reported above