MONITORING OF BODY COMPOSITION OF VOLLEYBALL ATHLETES WITH ANTHROPOMETRY, DEXA AND BOD POD: A COMPARATIVE STUDY

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INTRODUCTION

The main objective of volleyball coaches and sports nutritionists is to monitor corporal body athletes before, during and after the season, in order to prescribe a desirable body weight, to optimize performance and to evaluate the effects of training (1). Due to the increase in muscular mass and the decrease on adipose percentage of a competitive athlete, it has been speculated that conventional methods to determine the body composition are not accurate in this population (2). Therefore our aim is to obtain values of body composition with different methods of measurement.

METHODS

A descriptive longitudinal study was realized with a total of 15 college volleyball athletes (age 22.6 + -3.4, height 189.4 + - 5.4) wich body composition was evaluated at the beginning and end of a training period of 4 months duration composition. Body composition was determined through the indirect method with the team dual X-ray absorptiometer (DEXA) and air displacement plethysmograph (Bod Pod), and twice indirect anthropometry.

RESULTS

From the results of DEXA, showed a significant decrease from the first to the second shot of the percentage of fat mass (p= 0.001), same situation with anthropometry that indicated a significant decrease (p= 0.000) however the equipment Bod Pod showed no significant decreases (p= .245) from the first to the second take.

DISCUSSION

The reason for the difference in the changes in total body mass and lean mass in a period of training are expected to be a required resistace without much weight requirement (4) as reflected in our values, similar results were obtained at the Dan Bernadot (3) even lower values are shown in this study. Moreover, similar to the values of other studies, our data suggest that DEXA and anthropometry can be more precise regarding the Bod Pod. However, we cannot generalize our findings across all sports and genders.

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