NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

BODY COMPOSITION, SOMATOTYPE AND PHYSICAL PERFORMANCE PROFILE OF LEAGUE FEMALE VOLLEYBALL PLAYERS IN BULAWAYO

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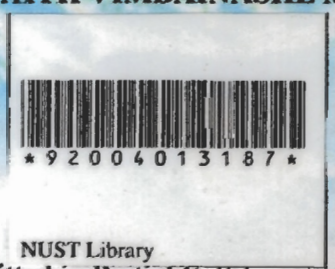

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Abstract

The aim of the study was to provide a body composition, somatotype and physical performance profile of 12 league female volleyball players in Bulawayo, Zimbabwe. Two sets of variables were assessed from the participants and these were; body composition variables (mass, height, six skinfolds, two girths and two breaths) and physical performance variables. Specific physical performance variables were: speed (20m sprint), and flexibility (trunk and shoulder hyper-extension), agility (505 agility test), muscle endurance (1 minute sit ups) and the vertical jump was used as a measure of leg power. Body composition variables were measured using the ISAK (2006) procedures. Body density was calculated using Jackson (1980) sum of four skinfolds equation and percentage body fat determined by the Brozek (1963) equation. The Lewis nomogram formula for determining anaerobic power from jump and reach scope and body weight was used to compute power. Somatotypes were determined by means of the Heath-Carter method. The generated data was analysed for mean, standard deviation and range. The mean age, weight and height of the participants was (23.25± 4.56) years, (58.7± 6.48) kg and (164.3± 5.93) cm respectively. The mean percentage body fat of the participants was 14.17%. The volleyball players of this study were balanced mesomorphs (2.65-3.52-2.48). Setters had balanced mesomorphy (2.41-3.26 -2.73) somatotype, centre backs were balanced ectomorphs (2.64- 2.57-3.35) and power players were endomorphic mesomorphy (2.91- 4.41- 1.48). Physical performance test scores were: vertical jump (34.9± 6.09 cm), speed (4.5 ± 0.33sec), trunk hyper-extension (37.4± 5.54cm), shoulder hyper-extension (39.6± 6.44cm), agility (3.2± 0.42sec) and 31.3± 6.38 sit-ups per minute. The mean leg power was 135.8 (kg-m/sec), power players recorded all the highest power scores. The mean height and weight recorded from the players were comparable to that of other international players. The players had lower percentage body fat as compared to recorded values of other international players. However, the percentage of body fat was within the recommended range for female volleyball players of the same age range. The somatotype of the players was similar to that of Italian league players. The somatotype for centre backs was the same as reported for female players in the United Kingdom. Limited data were available to compare performance in the different physical performance tests; however the players had low sprint times.