**VOLLEYBALLERS’ BODY BUILD AND THEIR PROFICIENCY IN COMPETITIONS.**

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**Introduction**

We applied anthropometric measuring on a sample of 13-15 year old girls participating in Estonian volleyball championships and analyzed the relations between anthropometric data and proficiency in the game.

**Methods**

The sample consisted of 74 girls from 8 most successful volleyball teams who participated in the tournament in Pärnu from May 21-23, 2004. During intervals between matches, all the 74 girls were measured anthropometrically using the method of Martin (Knussmann 1988). Fourteen body measurements were taken: weight, height, suprastermal height, xiphoidal height, wrist breadth, and circumferences of upper chest, lower chest, waist, hip, upper thigh, lower leg, arm, arm flexed and tensed, wrist. To assess players proficiency all the 28 games were recorded by the original computer program Game. The assessment of players’ proficiency proceeded as follows: during the match, the expert registered each case when a technical element (serve, reception, block, feint, attack or dig) was performed by a player. For all elements, the program calculated each player’s index of proficiency.

We created a 5-class SD classification on the basis of mean height and mean weight of the whole sample. First 3 classes were with concordant height and weight: 1.small height-weight, 2.medium height-weight, 3.big height-weight, and two classes non-concordant height and weight 4.big height-small weight (leptomorphs), 5.small height-big weight (pyknomorphs). Girls were placed into the classes according to their own height and weight. Then the means and standard deviations of all anthropometric variables were calculated and girls’ proficiency in the game was assessed in all 5 classes. For each class the total number of serves, receptions, attacks and blocks, their mean values per player and percentage from elements performed during the whole tournament were calculated.

**Results**

We managed to characterize body build not only by separate variables, but also from the viewpoint of the body as a whole. We found statistically significant gradual increase in weight, height, trunk and extremities circumferences, wrist breadth in classes small-medium-large and the most typical significant differences between pyknomorphous and leptomorphous girls. Analyzing proficiency in the same body build classes we got significant differences. The least successful were the girls of the first class- with small height and weight. The most successful were the girls from the third body build class with big height and weight. The players of other classes 2, 4 and 5 occupied an intermediate position. Out of the total number of points (1823), the girls of class 1 scored 5% and the girls of class 3 scored 36%; classes 2,4,5 respectively, scored 23%, 17% and 19%.

**Conclusion**

The authors recommend the use of the body build classification as it enables simultaneous assessment of body build and proficiency in competitions.

**References**


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