

## INFLUENCE OF NUTRITION OF HIGHLY QUALIFIED ATHLETES OF JUDOKAS OF UZBEKISTAN ON THEIR PHYSICAL FITNESS

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**Introduction.** In the modern practice of a coach in the preparation of highly qualified judokas, one of the topical issues is a rational and balanced diet. Numerous studies have proven that sports performance depends on the wrestler's energy costs in comparison with the state of rest, which must be restored. Nutrition of athletes should be complete, balanced in terms of fat, protein, carbohydrates. The success of the training and competitive activities of any judoist depends on the personalization of the diet.

**Keywords:** judoist, sports performance, nutritional.

**Target.** To evaluate the food menu developed on the basis of nutritional testing of judo athletes.

**Materials and methods.** We examined 14 highly qualified athletes specializing in martial arts (judo) male (78.5%) and female (21.5%), the average age was  $25.4 \pm 2.37$ . The data of the genetic analysis of each athlete was carried out by the method of nutrigenetic testing using PCR kits from the SPF "Litekh", the Panel "Metabolism" of nucleotide polymorphisms of the FABP2, PPARG, ADRB2 and ADRB3 genes. The assessment of personalized nutrition was carried out using tests used in martial arts based on the analysis of the athlete's physical fitness indicators using pedagogical testing methods. The physical quality of athletes was assessed by a set of test exercises according to their sports qualifications and skills. The processing of the primary material was carried out by a statistical method using the program Statistica 10.0, Russian version. The results are presented as mean and standard error of the mean.

**Results.** Analysis of the obtained laboratory data of nutrigenetic testing of each athlete showed that a low-fat diet was recommended to the largest percentage of the surveyed judokas (57.1%), a balanced diet (28.5%) and a low-carbohydrate diet (14.2%). Each athlete received a personalized diet: balanced - carbohydrates 55%, proteins 20%, fats 25%, low fat - carbohydrates 65%, proteins 15%, fats 20% and low carbohydrates - carbohydrates 55%, proteins 20%, fats 25%. Based on the results of a comparative analysis of the physical qualities of judo wrestlers according to the menu data before nutrigenetic studies and a personalized menu based on nutrigenetic tests, the following

indicators were obtained: flexibility (in points) - up to  $4.2 \pm 0.89$  after  $4.3 \pm 0.91$ ; Power (in watts) - up to  $1045.8 \pm 184.06$  after  $1125.0 \pm 207.10$ ; Speed-strength (cm) - up to  $46.2 \pm 3.77$  after  $50.8 \pm 7.51$ ; arm dynamometry (kg) – right up to  $49.3 \pm 10.0$  after  $56.5 \pm 13.63$ , left up to  $44.6 \pm 8.98$  after  $49.5 \pm 11.4$ .

Conclusions. Based on the data obtained, it can be judged that the nature of the nutrition of judoka athletes affects the physical qualities, the selection of an individual diet largely depends on the percentage of proteins, fats and carbohydrates of inherited genetic variants. A high level of physical fitness of an athlete can be achieved by taking into account individual needs for nutrients based on innate genetic characteristics.

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