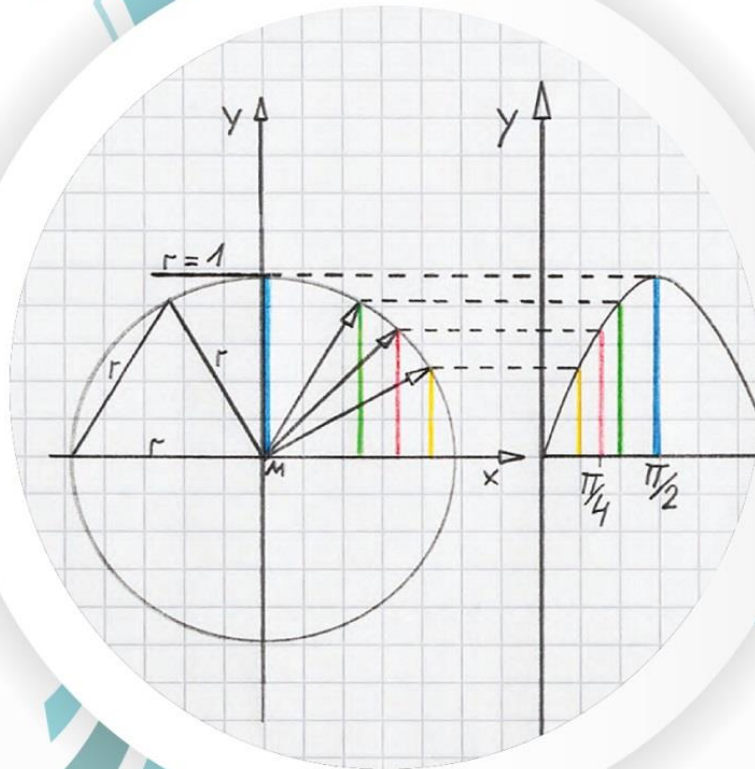


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NUTRITION REQUIREMENTS TO THE TEAM SPORT PLAYERS

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ABSTRACT A well chosen diet consisting of macro- and micronutrients has been found to be one of the key indicators of success in team sports, according to studies done at the Samarkand Institute of Economics and Service. For instance, nutritionists have created a diet for volleyball players that has the ideal amount of protein (with a set of amino acids), fat (with a set of essential fatty acids), and carbohydrates. This diet promotes recovery, muscle growth, increased endurance, and explosive power without putting on weight.

Keywords: team sports, food, body needs, fitness

According to investigators and specialists in the field of physical activity nutrition science, based to a sensible drinking schedule promotes a healthy metabolism, hydrates the body, and provides it with water-rich vitamins. It cleanses the body of toxins and impurities, normalizes the digestive system, and enhances food digestion. Of particular importance is light water [1].

Team players' diets should be chosen in accordance with the presence in it of beneficial vitamins that encourage the appropriate working of the immunological, endocrine, and cardiovascular systems, according to experts in the field of sports nutrition. Therefore, a volleyball player needs to consume natural plant and animal products that can be readily absorbed and stop BAS loss during vigorous physical activity in order for their entire body to function properly. The level of success of modern sports is associated with great physical and emotional stress of athletes and involves not only the appropriate technical facilities for classes, but also regulation of the level of biological state of the body of athletes, through a balanced adequate nutrition. Providing the athlete's body with wholesome, balanced nutrition is a guarantee of achieving high performance.



The science of sports nutrition takes seriously the prevention and promotion of healthy lifestyles [2]. The work of a number of researchers has established that with the help of a specially selected diet, it is possible to significantly improve the performance of athletes [2].

The need of the body to consume light water, with a reduced content of deuterium has been revealed [1].

In Samarkand region and in other regions of the country certain experience has been accumulated in creating specialized rations for team sports. Much attention is paid to the development of mass sports. The women's volleyball team of the Samarkand Institute of Economics and Service is known for its sporting success in Uzbekistan. The institute has developed recommendations on their diet. Now the students and undergraduates who make up the team get enough vitamins and nutrients from their daily diet. In this situation, nutritionists develop a special diet directly for each athlete of intensive sports, based on their physiological data. For example, a professional or amateur athlete has to endure systematic exertion in several stages, in which food intake is uneven.

Studies in the field of nutrition of athletes allowed to recommend a set of products in the composition of the weekly menu, taking into account the individual characteristics of the body and the level of physical activity [3]. It is generally known that the main factor determining the performance of volleyball players is a huge supply of carbohydrates accumulated in the body in the form of glycogen in the liver and muscles.

The aim of the work was to develop a correct diet for players in team sports, taking into account the physiological characteristics of athletes of energy-consuming sports activities, as well as the development of recommendations for the optimization of nutrition of athletes.

The objectives of the study were to identify the dependence of the achievement of certain results on the types of nutrition;



- Development of recommendations for optimization of nutrition for volleyball athletes;

- Determination of the ratio and combination of nutrients for athletes of energy-consuming sports.

Animal products (fish, seafood, meat, cottage cheese, cheese,) and vegetable products (fruits, vegetables, legumes, wheat and rye flour) were used in the research.

The work was carried out using standard methods of research of raw materials and ready products: capillary electrophoresis, structurometric, photometric and mass-spectrometric methods of analysis. The paper presents the results demonstrating positive changes in the body of athletes of team sports while maintaining a balanced diet. The optimum composition of diets, saturated with all necessary for the proper work of the athlete's body, engaged in energy-intensive sports, with a given combination of substitutable and indispensable nutritional components, has been developed.

Table 1

Energy and nutritional requirements for energy-dense sports per 1 kg of body weight.

Sports	Protein, g	Fat, g	Carbohydrates, g	Calories, kcal
Power lifting	3.0	2	11.7	77
Gymnastics, figure skating	2,5	2	9,8	67
Basketball	2.6	2.2	9.7	72
Boxing, wrestling	2.8	2.2	11	75
Volleyball	3.0	2.4	14.2	72

It is established that a strict diet, without taking into account physiological characteristics of an athlete, leads to a loss of not only fat, but also muscle mass,



which is not comparable with the active physiological expenditures of volleyball athletes. Consequently, a balanced diet should be adhered to in order to improve physical performance.

According to the data in Table 1, we can see that the energy expenditures of volleyball players are quite high and are at the level of those of weightlifters, boxers and judokas. Only gymnastics and figure skating have lower values.

A diet based on the preferential consumption of meat, fish and milk, which are rich in easily digestible proteins, has been developed. Supplying the body of athletes with sufficient amounts of animal protein is a better way to saturate the body of volleyball athletes than vegetable protein. It promotes muscle growth and accelerated recovery functions of the athlete's body. Achievement of decent sports results and overall health of the body required the inclusion of complete proteins in the diet. At the same time, the protein should be and essential amino acids, and the ratio of animal and plant proteins is 60:40. According to Table 2, we can determine that animal proteins contain (in comparison with plant proteins) significantly more essential amino acids.

Table 2

Comparison of the properties of plant and animal proteins

Animal proteins based products	Essential amino acids (%)	Protein digestibility (%)	Plant proteins based products	Essential amino acids (%)	Protein digestibility (%)
Beef	80	80	Beans	42	47
Milk	60	75	Peas	60	44
Fish	75	83	Potatoes	70	71
Pork	80	84	Rice	75	57
Eggs	100	100	Soybean meal	70	56



Since the digestibility of animal proteins is much higher, their content in the diet of athletes is more than justified. It is especially important to include fish and seafood in athletes' diets because of their unique combination of amino acids, fatty acids, fat-soluble vitamins, macro and microelements. Plant proteins are also less digestible and take more energy to digest. However, during the period of training it is necessary to consume vegetable protein food containing, besides proteins and carbohydrates, fiber, lipids, and micronutrients.

Conclusions. The studies performed by the authors have confirmed the need to enrich the food for athletes of team sports with complete proteins, lipids and carbohydrates. In order to stabilize the water balance in the body, necessary for intensive, explosive energy expenditure, it is recommended to use light water, with reduced deuterium content. Athletes' need for protein products is related to the need to restore muscle cells during the rehabilitation period.

The role of natural products containing valuable macro- and micronutrients, amino acids, vitamins and minerals is emphasized. Preferable choice of products of animal origin in sportsmen in comparison with vegetative ones was substantiated because they are more assimilable and contain a larger quantity of valuable components.

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