Global Conference on Medical and Health Sciences
Hosted Online from Madrid, Spain
Date: 14th April, 2026
Website: https://econferencia.com

ASSESSMENT OF NUTRITION IN ADOLESCENT ATHLETES

Ilkhom O. Otajonov
Jamshid R. Matyakubov
Alisher A. Jumaniyazov
Tashkent state medical university

Nutrition is a critical component of athletes' preparation, both for professionals and amateurs. Physical training is associated with substantial energy expenditure, hypoxia, and significant neuropsychological stress, which leads to increased physiological demands for energy and specific nutrients. Meeting these needs through a conventional diet alone is practically impossible; therefore, specially designed nutritional strategies are employed during the training cycle [1, 2, 3].

Athletes eliminate unhealthy foods, monitor their caloric intake, and adhere to other dietary regulations. Weightlifters, more than most, require proper and balanced nutrition. Their needs are unique, characterized by extremely high energy expenditures that demand several thousand kilocalories per day. It is practically impossible to meet these requirements with only two or three meals daily. Therefore, weightlifters consume food multiple times throughout the day according to a structured schedule. However, they also employ certain strategies. Most weightlifters use sports nutrition products, which allow them to intake only the necessary nutrients. [4, 5].

Thus, the nutrition of weightlifters is characterized by a comprehensive set of rules, non-compliance with which may adversely affect an athlete's professional career.

Materials and Methods

Our scientific study was conducted at the Chirchik Olympic and Paralympic Sports Training Center. The daily consumption of food products by student-athletes engaged in weightlifting was analyzed over the 2024–2025 academic year (autumn, winter, and spring seasons). During this period, daily menus were examined for each day. Specifically, 76 menus were analyzed in autumn, 75 in winter, and 81 in spring, totaling 233 menus. The obtained data were compared with the recommended daily dietary norms for student-athletes established by the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 731, dated December 30, 2022, "On measures to organize the activities of Olympic and Paralympic sports training centers" [6].

Analysis of the Results

Fats play an important role for athletes, serving as a source of energy (9 kcal per 1 g), facilitating the absorption of fat-soluble vitamins (A, D, E, K), participating in thermoregulation, protecting internal organs, and maintaining hormonal balance as well as tissue elasticity. During the study period, the requirement for butter among student-athletes at the center was covered by 91,8% in winter and 88,9% in spring. The amount of this product in autumn was very close to the recommended norm (94,5%).

In athletes' nutrition, dairy products are emphasized as a source of high-quality proteins (whey and casein) that support muscle recovery and post-exercise growth. In addition, they provide the body with essential minerals such as calcium and phosphorus, as well as vitamins D and B-group vitamins, which are important for bone development, metabolism, and energy balance. The daily intake of milk and fermented dairy products per weightlifter was considerably below the recommended norm. In autumn and winter (74,2% and 76,8%, respectively),

nearly one-quarter of the requirement was unmet, while in spring (79,5%) the deficit amounted to 20,5%. Cream was provided more in autumn (91,6%) compared to winter and spring; however, it still remained below the recommended level (by 16,6% and 14,1%, respectively). For young weightlifters, the daily intake of cottage cheese was insufficient: in winter and spring, only about one-quarter of the recommended norm was met, while in autumn the deficit reached 86,6%. At the same time, the consumption of cheese by the students during the study period was found to be nearly in line with the recommended daily intake.

Meat and meat products should occupy a central place in athletes' diets, as they are a source of high-quality protein necessary for building muscle tissue and recovery after physical exertion. They also provide iron, essential for the formation of blood cells and oxygen transport to muscles, as well as zinc and B-group vitamins involved in energy metabolism. During the study period, a daily deficit of meat and meat products was identified at the center: 7,3% in autumn, 8,5% in spring, and a relatively higher deficit in winter (11,2%). In contrast, the daily requirement for processed meat products (sausages) was fully met, and even exceeded the recommended norms by 6-18%.

Fish products are highly beneficial for athletes, as they provide high-quality protein essential for muscle growth, omega-3 fatty acids that reduce inflammation and support cardiovascular health, as well as vitamins and minerals important for metabolism, bone development, and immune function. During the study period at the center, the daily intake of fish products was found to be significantly below the recommended levels. The deficiency in the athletes' diets reached nearly 95% in autumn and spring, while in winter this показатель was relatively lower, though still substantial (86,8%).

Eggs are a high-quality source of protein for athletes, containing all nine essential amino acids necessary for muscle growth and tissue repair. Due to their high biological value and easy digestibility, eggs stimulate protein synthesis and anabolic processes in the body. Owing to their rich composition of vitamins and minerals, they contribute to muscle mass development and can be included in the diet in various forms. During the study period, egg consumption among student-athletes amounted to 43,3%, 48,6%, and 43,7% across the seasons, respectively, indicating that even half of the recommended requirement for this product was not met.

In conclusion, it can be stated that in the diet of student-athletes engaged in weightlifting at the Chirchik Olympic and Paralympic Sports Training Center, the intake of low biological value processed meat products (sausages) exceeded the recommended norms. At the same time, essential products necessary for the proper growth and development of young athletes—such as cottage cheese, eggs, and fish—were not consumed even at half of the recommended levels.

REFERENCES

1. Gavrilova N.B., Shchetinin M.P., Moliboga E.A. Current state and prospects for the development of specialized products for athletes' nutrition. Problems of Nutrition. 2017;86(2):100–106.
2. Levchuk S.I., Uchasov D.S. Analysis of nutrition of young weightlifters. Science-2020. 2021;(6/51):6.
3. Huebner M., Ma W. Health challenges and acute sports injuries restrict weightlifting training of older athletes. BMJ Open Sport & Exercise Medicine. 2022;8:e001372.

4. Nikityuk D.B., Pogozheva A.V., Keshabyants E.E. Assessment of actual nutrition and nutritional status of combat sport athletes. Sports Medicine: Science and Practice. 2018;8(2):47–53.
5. Islamovna, S. G., Komildjanovich, Z. A., Otaboevich, O. I., & Fatihovich, Z. J. (2016). Characteristics of social and living conditions, the incidence of patients with CRF. European science review, (3-4), 142-144.
6. Отажонов, И. О. (2011). Заболеваемость студентов по материалам углубленного медосмотра студентов, обучающихся в высших учебных заведениях. Тошкент тиббиёт академияси Ахборотномаси. Тошкент,(2), 122126.
7. Отажонов, И. О. (2011). Ҳозирги тараққиёт даврида талабалар овқатланишини гигиеник асослаш. Тиббиёт фанлари номзоди илмий даражасини олиш учун диссертацияси.
8. Шайхова, Г. И., Отажонов, И. О., & Рустамова, М. Т. (2019). Малобелковая диета для больных с хронической болезнью почек. Экспериментальная и клиническая гастроэнтерология, (12 (172)), 135-142.
9. Makhmudov Sh.Sh., Otajonov I.O., Mendiboev B.R., Ochilov Zh.T. Analysis of key nutrients in the diet of weightlifters. Journal of Humanities and Natural Sciences. 2024;(14[1]):179–182.
10. On measures to organize the activities of Olympic and Paralympic sports training centers: Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 731, December 30, 2022