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HYGIENIC RECOMMENDATIONS FOR ANIMAL FATS AND OIL PRODUCTS IN THE DAILY DIET OF MILITARY PERSONNEL

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This article presents a hygienic analysis of the role and components of animal fats and vegetable oils in the principles of healthy nutrition for organizing and enhancing the health of military personnel operating under adverse microclimate conditions. Hygienic requirements aimed at preventing deviations in healthy nutrition at home and in the workplace for military personnel exposed to adverse microclimates and harmful factors are outlined. The hygienic importance of recommendations aimed at healthy nutrition to eliminate diseases and complications arising from these deviations is highlighted. The allocated time, composition, and quantitative and qualitative indicators for the established dietary regimen for military personnel are explained. These hygienic recommendations are based on the importance of essential and necessary animal products, fatty and high-quality dairy products, pure fish, rabbit meat, the role of spicy and grain products, oil-rich seeds, and stored fruits and vegetables in the composition of breakfast, lunch, and dinner rations. The role of seasonal products and salt-free sausage made from horse meat and dried fruits consumed throughout the year is clarified. Scientifically based recommendations aimed at preventing fatigue, the development of nutrition-related diseases, and subsequent military ineligibility and disability resulting from excess or insufficient energy intake during the day at home and on duty are provided.

Keywords: military personnel, daily routine, healthy nutrition, fat-containing products, hygienic recommendations

Relevance of the Problem. The professional activities of military personnel, along with workers in adverse climatic conditions—high temperatures, windy dry cold in winter, chemical pollution of atmospheric air, and high dust conditions—are closely associated with stress, strain, and high-responsibility situations. Therefore, developing hygienic recommendations aimed at establishing a daily dietary regimen and ration to prevent various strains in these contingents (2,3,5,6,7) is one of the urgent problems today.

Considering the above, the purpose of the research was set as developing recommendations aimed at providing animal fats and vegetable oils in the ration composition for organizing healthy nutrition for military personnel operating under various adverse microclimate conditions, based on hygienic requirements.

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Research materials consist of recommendations aimed at providing sufficient amounts of animal fats and vegetable oils in the daily, weekly, and periodic nutrition rations of military officers and personnel serving in the Armed Forces of the Republic of Uzbekistan and operating under adverse microclimate conditions, tailored to their working conditions and aimed at improving their health status.

The age range of the military personnel under observation was from 18 to 60 years, and their age groups and categories correspond to the requirements for differentiating the age gradation of the observed contingent. When assessing the work activity and daily load of young people, it is necessary to ensure compliance with daily local ration requirements, implemented on the basis of timekeeping.

The dietary regimen for military personnel must consist of breakfast, lunch, and dinner at home and in the workplace. During winter seasons, it is recommended to consume one glass of tea, coffee, or yogurt before sleep at the workplace.

Considering the goals and objectives of the work, it is essential to remember that the organization of daily healthy nutrition for military personnel operating under the jurisdiction of the Ministry of Defense must comply with 12 required principles. Recommendations aimed at providing animal fats and vegetable oils in the diet in a 67:33 ratio throughout the day include the following:

Firstly, general recommendations: implementing personal hygiene skills, thorough handwashing, oral cavity sanitation, prevention of food-borne parasitic diseases, conducting sanitary education work in this area, creating and controlling the use of various rolls is necessary (1,4).

For military personnel, it is appropriate to formulate and recommend a diet that strictly adheres to the principles of healthy nutrition, aimed at preventing food poisoning, diseases arising from harmful habits such as alcoholic beverages, consumption of sour and salty products, resulting in inflammation of the oral mucosa, dental defects, caries, and respiratory and nutrition-related diseases, with a focus on the physiological role of fats and oils and their complete provision.

Along with the technologies for preparing breakfast components for military personnel, wheat, rice, corn, barley, oatmeal, pearl barley, and sorghum porridges with 200 ml of fatty milk, additionally 10 grams of butter, bakery products made from second-grade Uzbek flour, eggs and hot meals, fatty dairy products, 82.5% butter, fatty cream, cheese are considered the main source of animal proteins and fats. Essential amino acids and L-arginine in the protein composition are provided through meat and fish products. By excluding fried, smoked, sour, and salty products from the daily diet, along with standardizing confectionery, sweets, and margarine-containing products, replacing sugary coffee with coffee, replacing sausage products with salt-free horse meat sausage, replacing premium flour products with second-grade local flour products, introducing oil-rich seeds and pumpkin seeds into the diet, and providing easily digestible sources of fats form the basis.



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In organizing healthy nutrition, appropriate and justified recommendations for providing animal fats and vegetable oils should be based on the consumption of various products such as milk, meat, fish, grain products, vegetables, fruits, spices, etc. These products consist of animal and vegetable proteins and fats.

Subsequent recommendations include maintaining a balance of strength, in a 1:1:4 ratio. Recommendations for 5 groups corresponding to harmful working conditions for able-bodied groups up to 60 years of age are 4149 kcal, proteins 147.0 g, fats 167.7 g, carbohydrates 823.5 g; for those over 60 years: 3780 kcal, proteins 129 g, fats 127 g, carbohydrates 768 g; for women up to 60 years: 3698 kcal, proteins 130.2 g, fats 146.4 g, carbohydrates 745.4 g; for women over 60 years: 3544 kcal, proteins 122.5 g, fats 121.0 g, carbohydrates 660.0 g. Based on the timekeeping of daily working hours, higher energy expenditure, the strength expenditure of military personnel, working conditions, and dietary regimen should be aimed at restoring their health status, and basic energy is provided through animal and vegetable proteins and fats.

In our next recommendations for the observed military personnel, the deficiency of daily energy expenditure at home and the sharp increase in the proportion of carbohydrates in its composition, which increases the energy value, is considered one of the causal factors for subsequent nutrition-related diseases.

The basis of recommendations in the daily ration composition of military personnel is the standardization of fats, especially animal fats—along with the use of vegetable oils and Omega-3 sources, introducing olive oil helps reduce the harmful effects of adverse microclimate. Olive oil is rich in iron, sodium, potassium, as well as vitamins E, A, K, and B group, and aids in the absorption of proteins, fats, and oils.

Failure of military personnel to comply with the established dietary regimen and the above requirements in its composition leads to irregular distribution of energy expenditure, decreased efficiency in performing daily tasks, development of nutrition-related diseases, impairment of the body's functional state, and subsequently forms the basis for economic damage and the need for workplace reserves.

REFERENCES:

1. Iskandarova, G. T., Salomova, F. I., Ermatov, N. J., Nuruzova, Z. A., Shaikhova, G. I., & Samigova, N. R. (2023). Textbook on Mastering Practical Skills in the Medical and Preventive Profile.
2. Ermatov, N. J., & Abdulkakhakov, I. U. (2021). Socio-Hygienic Assessment of Morbidity Levels Among Various Population Strata Based on Medical Consultations and In-Depth Examinations. *Biology and Integrative Medicine*, 6, 53.
3. Ermatov, N. J., Gaibullaev, A. A., Kariev, S. S., Dadabaev, A. K., Berdibaev, T. M., & Kuchkarov, A. K. (2024). Metaphylaxis of Calcium-Oxalate Urolithiasis. *Journal of Clinical and Preventive Medicine*, (4), 43-48.
4. Ermatov, N. J., Kamilova, A. Sh., Kamilov, Zh. Yu., & Ortikov, B. B. (2024). Hygienic Analysis of the Impact of Parasitic Diseases on Children's Health.

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5. Ermatov, N. J., Turakulov, E. Kh., & Berdiev, O. D. (2025). Hygienic Recommendations for Healthy Nutrition for Military Personnel Diagnosed with Hypertension. *Acta Academiae*, 4(12), 217–223.
6. Ermatov, N. J., & Kutliev, Zh. A. (2025). Modern Aspects of Etiopathogenesis, Diagnosis and Prevention of Alimentary Obesity in Military Personnel. *Medical Journal of Young Scientists*, 13(03), 284-293.
7. World Obesity Federation. (2023). World Obesity Atlas. Retrieved from <https://data.worldobesity.org/publications>

