

EVALUATION OF THE NUTRITION OF THE BULGARIAN ARMY MILITARY PERSONNEL DURING THE PREPARATION FOR PARTICIPATION IN EXPEDITIONARY OPERATIONS

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ABSTRACT

The development of the military art and of the rapidly changing security environment, define the developing and the formation of new capabilities for their management. The increasing importance of the Expeditionary Forces of NATO demands the developing of the national legislation, connected with the nutrition of the Bulgarian Army military personnel, participating in expeditionary operations. In response to the tasks, delegated to the armed forces during their participation in expeditionary operations, the provision of the units with food becomes a priority logistic capability.

The research is focused on the applicability of a new nutrition model in the Bulgarian Army, in compliance with the national and the physiological nutrition standards, with the resources security and with the specificity of the expeditionary operations, requiring a special expenditure of physical and neurological-psychological energy from the military personnel.

KEYWORDS:

Nutrition model, nutrition standards, product sets

1. Introduction

The nature and the scale of the contemporary conflicts and crises, the potential participants, the technological achievements in the sphere of means for impact on the opposing party, the development of the military art and the rapidly changing security environment, are defining the developing and the formation of new capabilities for managing them.

According to the National Defense Strategy of the Republic of Bulgaria from 2016, while developing their defensive capabilities, the armed forces build military units, which are manoeuvrable and possess expeditionary character and structure, capable to perform tasks of a wide operations spectrum.

The glossary of terms and definitions, used by NATO (2015) AAP – 6, gives the

following definition for “expeditionary operation”: *“Transfer of military forces over long distances (beyond the deployed communication lines) at a distant operation area in order to accomplish a specific objective”*.

A similar understanding of the expeditionary operations can be found also in the standardization documents of NATO, such as the Joint Union Doctrine for land operations in the part “terms and definitions”. According to the AAP-06, such type of operations, represent the projection of military force over prolonged communication lines at a distant area for the achievement of a particular goal.

At the Summit in Wales in September 2014 a Plan for preparedness for action of NATO was approved in the context of the challenges of today and tomorrow, refracted by the tasks, delegated by the Strategy Concept, namely: collective protection, crises management, also joint security. Resulting from that, the member states agreed to form until 2016 a joint expedition Corps, defined as a rapidly expanding force, able to perform the complete spectrum of operations, including high intensity operations (North Atlantic Council, 2014).

The increasing importance of the expedition forces for NATO demands the developing of the national legislation, connected with the nutrition of the military personnel of the Bulgarian Army, participating in expedition operation. Many researchers emphasize different aspects of interconnection between the nutrition and the military logistic. V. Banabakova (2010) examines quantitative and qualitative, common and partial indicators for measuring the effectiveness of the logistic activities and, in particular, of the nutrition service. The problems of storage are laid down in many researches, which emphasize the need for modernization and optimization of the storage facilities of the Bulgarian Army (Nichev, 2011; Banabakova & Stoianov, 2015; Banabakova at all, 2017). N. Stefanov analyzes in details in a number

of publications the use of outsourcing services for the provision of food for the military personnel within the structures of the Bulgarian Army (Dimitrova at all, 2015; Stefanov, 2017a; Stefanov, 2017b).

2. Summary

P. Glushkov (2017b) proposes in a number of researches new nutrition standards. They are based on a set of victuals for the cooking of food for the weekly menu of the military personnel during their preparation for participation in expeditionary operations. The composition of the elaborated new set of victuals is consistent with the classification according to the groups of foodstuffs, proposed in the National recommendations about healthy nutrition of the population. It comprises: cereals and potatoes; fruit and vegetables; milk and dairy products; meat, fish, eggs, legumes and nuts; added fats (butter, lard, sunflower oil, corn oil, olive oil, margarine and others); sugar and sugar products, confectionery. For determination of the set of foodstuffs P. Glushkov (2017a) adopts the exclusion approach or the reduction to the smallest possible quantity of non-healthy foods. Here belong the following food groups: foods containing partially hydrogenated vegetable oil; certain foods with high salt contents; definite foods and beverages containing caffeine or taurine; certain foods or beverages with high contents of sugar and sweeteners.

The suggested set of victuals gives the specialists-nutritionists in the Bulgarian Army the opportunity, while composing the weekly menu of the military personnel during their preparation for participation in expeditionary operations, to comply with the following requirements for the nutrition of this specific contingent of users: implementation of scientifically justified nutrition standards; achieving a balanced and rational nutrition; use of foodstuffs, preferred by the consumers, giving the opportunity to cook the favorite dishes and to achieve more complete satisfaction;

implementation of a nutrition model, which corresponds to the demands of the persons, having the right to meals; economy.

The listed above requirements characterize the service nutrition for the military personnel during the preparation for participation in expeditionary operations. Each of all five requirements has its importance for providing the service. The balance between the relationships of the characteristics lies at the basis of the determination of the quality of the provided service.

The mere proposed new set of foodstuffs sets the guidelines not only for the planners of the weekly menu, but also for the consumers on an optimal number of foodstuffs according to the groups and types. This set of foodstuffs doesn't exclude the opportunity, to implement also further foodstuffs during the different seasons, when a diversification of the menu, or satisfying the needs of the consumers, or the use of the best market prices are required. In this case the "substitution" must be according to the types and groups of foodstuffs, guaranteeing the provision of the foreseen nutrition value.

The quantity of the food products in the suggested new standards for cooking of food for the military personnel during the preparation for participation in

expeditionary operations gives the opportunity to compose a balanced and rational menu (Glushkov, 2017b).

From the point of view of the balanced nutrition, the proposed new nutrition standards can be defined and evaluated according to the following indicators:

- Adequate energy securing;
- Balance of the nutrients;
- Diversity and balance between different types of foods;

According to the first indicator – an adequate energy securing, the proposed new nutrition standards give the opportunity to provide the consumer with energy in amount of 3532 kcal. This value is 3 % higher than the average energy need for men aged 19-30 with high physical activity (3432 kcal). For determination of standards (Stavrev at all, 1969), the basic standards must be increased by 3-10 %, because the nutritional substances are being utilized by 3-10 % less than foreseen. The Figure no. 1 illustrates the comparison between the energy securing during preparation for participation in expeditionary operations, using recommended nutrition standards, using the proposed new nutrition standards and the national physiological standards for nutrition of the population.



Figure no. 1 Energy securing of the nutrition of the military personnel in the Bulgarian Army during the preparation for participation in expedition operations

The graphic shows, that keeping the recommended nutrition standards and the means for determination of the maximal amount of the financial resources for provision of food for the eligible personnel during the preparation for participation in expeditionary operations will result in imbalance at the securing of the recommended, healthy energy levels. Of the other part it's obvious, that to the greatest extent the proposed new nutrition standards completely satisfy the requirements of the scientifically justified national standards for the securing of the needed energy quantity in the organism.

The research among the leading military forces in the world shows, that the

energy composition of the proposed new nutrition standards corresponds to the regulations, adopted by the STANAG 2937 (NATO, 2013) for the Armies of NATO and to the technical specification TY 9194-461-04605473-03, issued in connection with the defining the combatant daily ration in Russia (Minoboron, 2003). The calorific value of the food in the Army of the United States according to the most popular daily ration MRE™ is 3900 kcal/day (DoD Combat Feeding Directorate, 2012), thus exceeding by 9,5 % the value of the calorific composition of the proposed new standards in the Bulgarian Army. The results are shown in Figure no. 2.

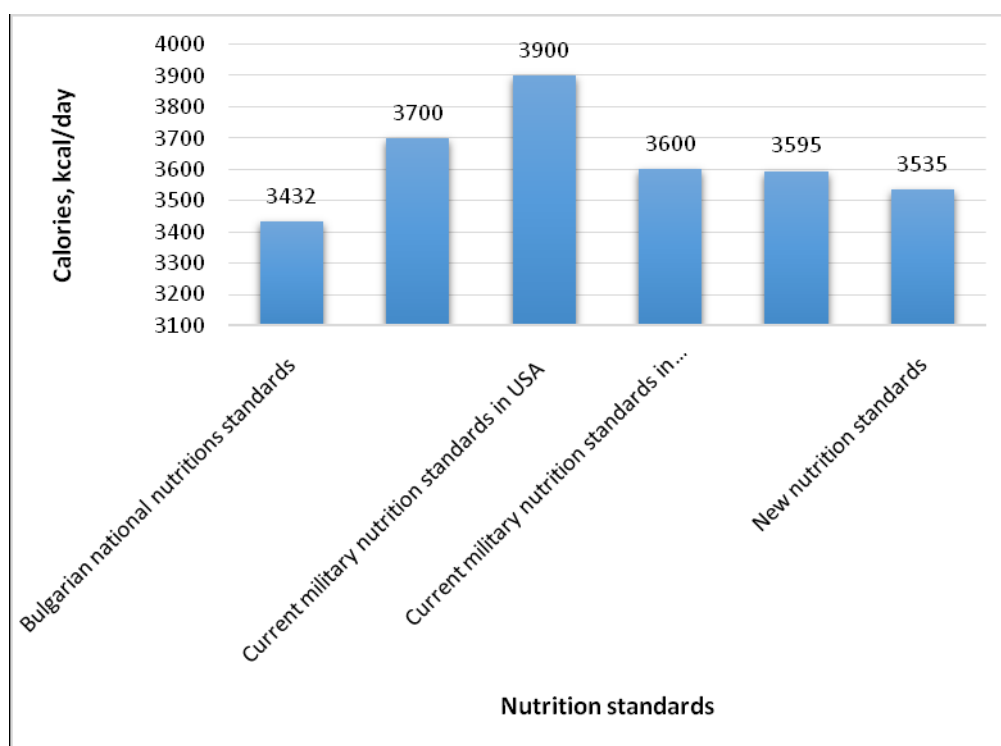


Figure no. 2 Energy amount, provided by the Bulgarian nutrition standards, by the standards of the Bulgarian Army and of the leading military forces

According to the second indicator – balance of the nutrients, the proposed new nutrition standards give the opportunity to secure the consumer with the needed increase of proteins, compared to the basic standard, by 15-20 %, which corresponds to the high nerve stress and physical harms,

accompanying the preparation for participation in expeditionary operations. The rest of the nutrients, provided by the new nutrition standards and the nutrition additive „Fish oil + vitamin D3” comply with the requirements of the national physiological standards for nutrition of the population.

The data obtained from the carried out research of the nutrition at Vasil Levski National Military University for the period 2014-2015 (Nitchev & Glushkov, 2016) and the data about the quantity of macronutrients from the new proposed standards for nutrition of servicemen of the Bulgarian Army in expedition operations,

are being compared to the national standards. The results confirm the imbalance of the macronutrients for 2014 and 2015, while with the obtained quantities in the new nutrition standards the needed balance is achieved.

The comparison is illustrated on Figure no. 3.

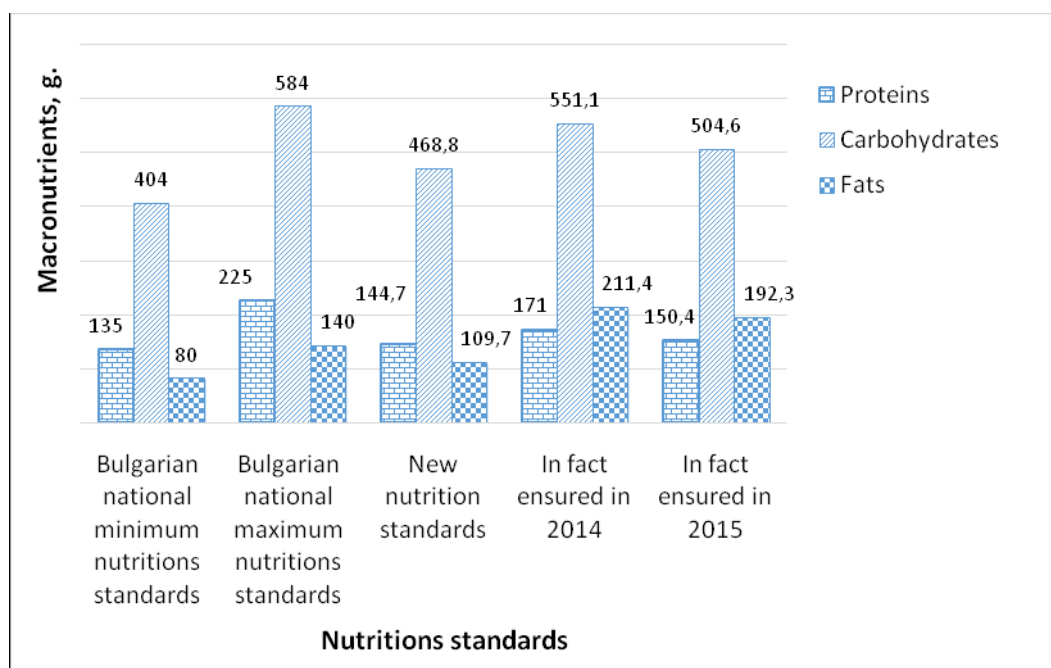


Figure no. 3 Ensuring macronutrients for the servicemen in preparation for participation in expeditionary operations

The values of all macro- and micronutrients in the proposed new set of foodstuffs and the added quantity by means of the suggested nutrition additive “Fish oil + vitamin D₃” coincide with the scientifically justified standards. This gives us the reason to confirm the balance of the nutrients in the new nutrition standards.

According to the third indicator – diversity and balance between different types of foods, we ought to notice, that by means of the new nutrition standards for the different food groups a diversity of foodstuffs is guaranteed, which give the opportunity to compose a weekly menu with various dishes. The proposed new nutrition standards comprise 69 nutrition products, separated into groups, as follows:

the group “Cereals and potatoes” – 9 products; the group “Vegetables and fruit” – 27 products; the group “Milk and dairy products” – 5 products; the group “Foods rich in protein” – 21 products; the group “Added fats” – 3 nutrition products; the group “Sugar, honey and foods with high contents of added sugar” – 4 nutrition products.

The contents of the valid nutrition standards, is limited, in the light of the diversity of the foodstuffs compared to the diversity in the proposed new nutrition standards (Ministry of Defense of the Republic of Bulgaria, 2015). Its distribution, according to the adopted classification of the foodstuffs groups, ranks poorly concerning the opportunity to compose a diversified week menu comprising different

types of foods, which are to contribute with their biological value to the achievement of the needed balances between the nutrients.

The quantity comparison between the effective and the new nutrition standards is shown on Figure no. 4.

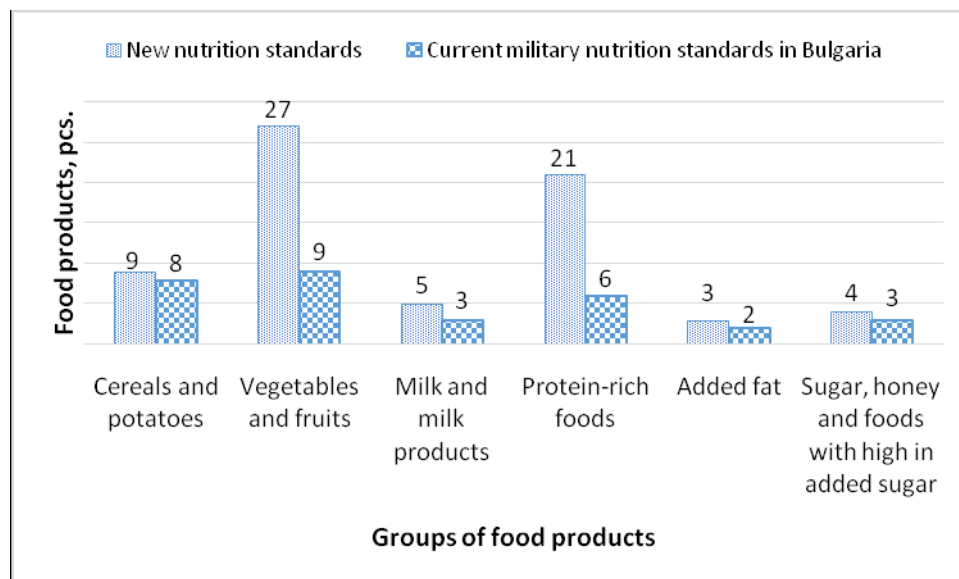


Figure no. 4 Comparison between the foodstuffs contents of the current and the proposed nutrition standards

It's appropriate to pay attention to the fact, that a diversity and balance of the different foods can be achieved, through taking daily and in suitable quantities at least one or two representatives of the seven basic groups of foods (Nestorova, 2014). The contents of the new nutrition standards, gives the opportunity to achieve this recommendation.

3. Conclusion

1. The priority logistic ability, in response to the tasks delegated to the armed forces during participation in expeditionary operations, is the increasing of the mobility of the declared military units and the provision of a timely and effective logistic support in the course of the operation, in particular the provision of the forces with foods and water.

2. The circumstance, that the provided quantities of foodstuffs during the examined period, secure higher energy values than the standards of the average energy needs of the population, proves the discrepancy between the current nutrition standards in the Bulgarian Army and the labor specific properties of the different servicemen contingents and the lack of rationality of the nutrition as a factor for a healthy way of life.

3. The obtained results support the applicability of a nutrition model, which is consistent with the national and the physiological nutrition standards, with the secured resources and with the specificity of the operations, requiring a specific expenditure of physical and nervo-psychic energy from the servicemen, participating in the operations.

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