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ГИГИЕНИЧЕСКОЕ ОБОСНОВАНИЕ УПОТРЕБЛЕНИЯ ПРОДУКТОВ ФУНКЦИОНАЛЬНОГО ПИТАНИЯ

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Аннотация

Ухудшение качества и количества пищи в определенной степени приводит к возникновению стоматологических патологий и распространению хронических неинфекционных заболеваний, таких как кариес зубов, стоматит, ожирение, диабет и другие. Из-за социально-экономического кризиса негативное состояние здоровья в Узбекистане называют «социальной напряженностью». Разработка и использование продуктов функционального питания заменяет ценные витаминные добавки.

Ключевые слова:*стоматологические патологии, питательные вещества, калий, магний, калорийность*

HYGIENIC JUSTIFICATION OF THE USE OF FUNCTIONAL NUTRITION PRODUCTS

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Abstract

Deterioration of the quality and quantity of food leads to a certain extent to the occurrence of dental pathologies and the spread of chronic non-communicable diseases such as dental caries, stomatitis, obesity, diabetes and others. Due to the socio-economic crisis, the negative state of health in Uzbekistan is called "social tension". The development and use of functional nutrition products is

a substitute for valuable vitamin supplements.

Keywords: *dental pathologies, nutrients, potassium, magnesium, calorie rations*

Is a hygienic justification for the use of functional food products in dentistry on the basis of local food products. Physiologically active components in food are not in a pure state. Their nutritional function is manifested as a result of mutual synergism (interaction), which depends on the chemical composition of food, ie the raw materials from which they are prepared. Typically, technological processing involves many: physical, chemical and / or mechanical processes.[4,5] These can include grinding (weighing), mixing, heating, homogenization, emulsification, fermentation, vinegar, and more. As a result, physicochemical characteristics, texture, taste, odor and absorption and nutritional value, product appearance, etc. Formed[13,19]. In general, they have a positive effect on nutritional properties and key nutrient macro and micro components. In this regard, the greatest scientific and practical interest is in research on the use and production of functional foods in the prevention of non-communicable diseases, including dental pathologies[17]. Dental pathologies in children and adolescents, especially dental caries, inflammatory diseases of the periodontium are a topical problem not only in dentistry but also in general medicine due to their prevalence, adverse effects on the body, ineffectiveness of treatment methods and tools. According to most researchers, the initial forms of periodontal inflammatory diseases in children and adolescents are primarily associated with adverse effects on the microflora of the dental plaque, it serves as a mechanical, chemical and biological influencer of periodontal tissue[7,9]. However, even in these cases, external factors such as stress, systemic diseases, and internal signs can slightly upset the balance between pathogenic and saprophytic microflora. With the increase in the number of pathogenic microorganisms and their products of vital activity, there is a rapid shift towards the formation and accumulation of dental plaque. In all cases, carefully motivated, knowledgeable and effective hygiene of the oral cavity is carried out by the method of primary prevention[5,20]. We have found only incomplete data on the effect of immune status on the morphofunctional state of periodontal tissue in isolated cases in the popular literature. There is also no data on clinical-functional parallels in terms of age, which is important in terms of early detection of diseases when the process is re-described[13,20].

Research methods.

1. Identification of deficient nutrients and pharmacologically active substances for the body of medical college students with dental pathology.

2. To study the compensatory-functional properties of the most common local foods in the diet consumed by dental patients

3. To study the consumption of salt by the population.

4. To study the biological completeness of new types of food products belonging to the group of functional nutrition.

5. To study the effectiveness of new types of functional foods to change the state of vitamin C absorption in individuals with dental pathology.

When formulating functional foods, their biological and nutritional value must be studied very carefully.

The research was conducted in the form of public-private partnership at the Tashkent State Institute

of Dentistry and the Tashkent regional production enterprise of JSC «MAVR». Only local raw materials were used to produce functional food products.

Scientific novelty of the research.

Technological guidelines and recipes for the production of functional foods were developed and their impact on the effectiveness of vitamin C metabolism in students with dental pathology was assessed. For the first time, the concept of functional nutrition was developed to prevent dental pathologies at all stages of life, which meet the basic vital requirements.

The resulting powder is used in the packaging of the following mixtures of functional nutrition, intended for the prevention of dental pathologies:

1. «Tooth-strengthening mixture» consisting of legumes – 3 parts, 1 part chitosan powder, 1 part namatak powder, 1 part eggplant powder, 1 part pumpkin powder;

2. «Prophylactic mixture» consisting of 4 parts pumpkin powder, 3 parts eggplant powder, 3 parts namatak powder.

Research methods and materials.

Laboratory analysis included determination of the following substances:

- the amount of dry residue by the generally accepted method

- Determining the use of the method of firing in the muffle furnace

- Proteins according to the Keldal method in the modification of MP Bolotov

- Determination of fats by Soxhlet method

-M.F.Nesterin, I.M.Skurikhin, the method of laboratory analysis selected on the automatic analyzer AAA-681 by the calculated analysis of the amount of essential amino acids and the generally accepted method;

- Determination of vitamin C by the Tilmans method based on the redox reaction between ascorbic acid and the sodium salt of 2,6-dichlorophenolindophenol [6].

The current diet was studied with the frequency and 24-hour generation methods recommended by WHO for epidemiological studies. To this end, we developed a student-specific questionnaire and approved by the Ministry of Health, which surveyed 350 students. In assessing the adequacy of food for reference sizes, the norms of physiological requirements for nutrients and energy for different age groups in the Republic of Uzbekistan, as well as standards for the consumption of micronutrients on the WHO / FAO scale were obtained.

The results of the study show a reliable difference between the theoretical calculation and laboratory test data of the main components in terms of protein, fat and caloric content in relation to the high humidity and concentration of raw materials for teeth strengthening products (Table 1), prophylactic nutrition (> 0.001). The absence of discrepancies between theoretical calculations in namatak and laboratory test data (> 0.001) is related to the use of finished namatak powder as a raw material. There are no official data on the storage of carbohydrates in chitosan.

Table 1.

According to theoretical calculations and laboratory data, the nutritional value of «Teeth strengthening mixture» per 100 grams of component is M ± m.

Name of nutrients	Computing data	Computing data	P
Proteins:	19,3±2,0	26,2±2,0	<0,001
Pea buds	18,1±2,0	23,1±2,0	<0,001
chitosan	0	1,4±0,1	<0,001
eggplant	0,6±0,02	0,8±0,04	>0,001
Fats	4,4±0,2	6,4±0,3	<0,001
Pea buds	1,2±0,2	1,7±0,3	<0,001
Chitosan	2,8±0,4	3,8±0,2	<0,001
Eggplant	0,1±0,02	0,3±0,02	≤0,001
Carbohydrates	54,2±3,0	68,8±3,0	>0,01
Pea buds	43,0±3,0	51,0±2,0	>0,01
Chitosan	0	3,5±0,3	<0,001
Eggplant	5,5±0,3	6,8±0,4	≤0,001
Kcal	321,6±6,0	4378±8,0	<0,001
Pea buds	244,4±6,0	311,7±6,0	<0,001
Chitosan	25,2±3,0	53,8±6,0	<0,001
Eggplant	25,3±2,0	33,1±2,0	<0,001

The energy and nutritional value of the average daily ration of students in the background of the current diet in the summer and autumn seasons M_m

2- Table

According to theoretical calculations and laboratory data per 100 grams of component, the nutritional value of "Prophylactic nutrition mixture" is M ± m.

Name of nutrients	Computing data	Computing data	P
Proteins:	5,2±0,2	5,9±0,2	<0,001
Pea buds	0,6±0,02	0,8±0,04	<0,001
chitosan	0,6±0,03	0,9±0,02	<0,001
eggplant	4,0±0,3	4,2±0,3	>0,001
Fats	0,4±0,02	0,9±0,03	<0,001
Pea buds	0,1±0,02	0,3±0,02	<0,001
Chitosan	0,3±0,02	0,6±0,02	<0,001

Eggplant	0	0	0
Carbohydrates	71,2±3,4	76,0±4,0	<0,001
Pea buds	5,5±0,4	6,8±0,5	<0,001
Chitosan	5,7±0,6	7,5±0,4	>0,01
Eggplant	60,0±5,0	61,7±6	0
Kcal	309,7±8,5	327,6±7,6	<0,001
Pea buds	25,3±2,0	33,1±3,0	<0,001
Chitosan	28,4±3,0	39,0±4,0	<0,001
Eggplant	256,0±6,0	255,7±6,2	>0,001

The nutritional and energy value of 1 portion of the finished product presented in the table is of the greatest practical importance. Therefore, first of all, it is mandatory to indicate the main indicators of nutritional and energy values in the development of prescription standards and technological guidelines for food products. Second, the nutritional and energy value of PFP is necessary in determining guidelines for their use. This is because the energy value of PFP in general should not drastically increase the caloric content of rations and retain its nutritional value due to carbohydrates and proteins. In this regard, the proposed mixtures for strengthening teeth and prophylactic nutrition in a single dose (50 grams) per day can make up no more than 5% of the energy value of the average diet. In this regard, specific studies should be conducted to analyze the average daily ration of food before and after PFP administration.

Results and discussion:

1. Thus, the assessment of the current nutritional status of medical college students showed that the current consumption of essential nutrients does not correspond to the functional changes in the body of student youth and the principles of rational nutrition. Evaluation of the nutritional status of those examined by the body mass index showed that a low nutritional value of BMI <18,5 was recorded in most cases among girls (36,4%), the normal level of BMI was observed in 18,5-24,9 men (50%); A complete BMI of 25-29,9 showed almost the same results in both men (23%) and women (17,2%); It should be noted that among those surveyed, the number of obese people was lower than the national average for Uzbekistan (21,5% for men and 25,5% for women).

2. Comparative assessment of the biological value and structural composition of biologically active substances in the average daily diet of the subjects against the changed and current background of nutrition testifies to the effectiveness of the corrections. Thus, in the winter and spring, the total biological value of the ration increased by 54,8±1,5% of the current fund, and by 78,2±1,3% (P <0,01) against the changing background of nutrition. Due to the relative increase in the average daily amount of substances in the diet against the changing background of nutrition in the summer and autumn, the increase in the total biological value of the average daily ration amounted to 56,7±1,1%, from 79,4±1,2%

3. A comparative assessment of the current demand for essential nutrients and energy with physiological norms of demand for students showed a lack of vitamins A, C, V6, E, potassium,

magnesium, zinc minerals in vegetable oils.

4. These fats (25,3±0,7%when the norm is 26-27% carbohydrates (62,3±1,3% when the norm is not more than 55%). The energy capacity refers to the average weight distribution. Similar shifts are confirmed by the analysis of rations on the megacalorie system, where the average weight of fats is slightly lower than the recommended level (37,0 per 1 megacalorie) (28,0±2,2per megacalorie), and the average weight of carbohydrates is lower than the recommended (1 megacalorie). 137,0 was slightly higher (28,0±2,2 megacalorie).

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КОРРЕЛЯЦИОННЫЕ ВЗАИМОСВЯЗИ МЕЖДУ ПОКАЗАТЕЛЯМИ ПСИХОЭМОЦИОНАЛЬНОГО СТАТУСА И ЭНДОТЕЛИАЛЬНОЙ ДИСФУНКЦИЕЙ ПРИ ХРОНИЧЕСКОЙ РЕЦИДИВИРУЮЩЕЙ ТРЕЩИНЕ ГУБ

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АННОТАЦИЯ

Анализ уровня тревожно-депрессивных расстройств и эндотелиальной дисфункции у пациентов с ХРТГ позволил доказать их взаимосвязь и однонаправленность изменений показателей, что явилось основанием рассматривать эти процессы как патогенетически значимые в развитии патологии красной каймы губ.

Ключевые слова: *тревожно-фобические расстройства, TECHNOZYM wWB: Ag Elisa.эндотелиальной дисфункции и тревожно-депрессивных расстройств.*