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CHARACTERISTICS OF FOOD PRODUCTS PROHIBITED FOR USE IN SCHOOLAS

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Abstract: The most important factor in maintaining and strengthening the health of school-age children is rational and adequate nutrition. High-quality food should provide the body with substances that form the basis of various organs and tissues, compensate for energy costs, promote normal physiological and neuropsychic development of children, increase efficiency, create conditions for adequate adaptation to educational activities [3, 4.8, 11, 12, 16, 18, 20, 21]. Mandatory requirements and recommendations for organizing meals in general education organizations are established by state Sanitary and Epidemiological Requirements for Organizing Meals for Students in General Education Schools, Institutions of Secondary Specialized Vocational Education SanPiN RUz N 0288-10, Law of the Republic of Uzbekistan dated August 30, 1997 N 483-I "On the Quality and Safety of Food Products". A deep approach is required to compiling a complete diet for a student, taking into account the specifics of the child's body. Mastering school programs requires high mental activity from children. A small person who is becoming familiar with knowledge not only performs hard work, but also grows and develops, and for all this he must receive adequate nutrition [1,2, 6,10,11,13,19,22].

Key words: fast food, school meals, food additives.

Introduction: Intense mental activity is associated with significant energy expenditure. According to nutritionists, a modern student should eat at least four times a day, and there must be a hot dish for breakfast, lunch and dinner. Milk, cottage cheese, cheese, and fermented milk products are essential for a growing body - they are sources of calcium and protein. Fish dishes can also help to replenish the deficiency of calcium and phosphorus [1,5,6,13,16,18,21]. As a side dish, it is better to use stewed or boiled vegetables (cabbage, beets, onions, carrots, legumes, garlic and cabbage) rather than potatoes or pasta. Students should drink at least one to one and a half liters of liquid per day, but not carbonated water, but fruit or vegetable juices. In addition to sweet tea, jam and confectionery, students' morning breakfast must necessarily include bakery products, porridge (oatmeal has proven itself to be the best), pasta, fresh vegetables, and apples, rich in fiber and pectin, are preferable among fruits. These are complex forms of carbohydrates, a supply of which is necessary for a child. The remaining carbohydrates are best distributed among intermediate meals during the school day: fruit drinks, tea, buns, cookies, and candies will provide a constant supply of fresh portions of glucose into the blood and will stimulate students' mental activity. The second most important component of food needed to meet students' energy needs is fat. They account for 20 to 30% of the total daily energy expenditure. A student's diet must contain fiber in the required quantities - a mixture of difficult-to-digest substances found in the stems, leaves and fruits of plants. It is necessary for normal digestion. Proteins are the main material used to build the tissues and organs of a child [8,10,11,16].

Child nutrition and related diseases are one of the most pressing issues today. Also, the decision of the President of the Republic of Uzbekistan "To provide free hot meals to primary school students in 2022" shows the attention focused on this same issue. First and second courses based on dry instant food concentrates are prohibited in school canteens. There are restrictions on certain items in the menu of children's food prepared in schools. Proteins differ from fats and carbohydrates in that they contain nitrogen, so proteins cannot be replaced by any other substances. Students aged 7-11 years should receive 70-80 g of protein per day, or 2.5-3 g per 1 kg of weight, and students aged 12-17 years - 90-100 g, or 2-2.5 g per 1 kg of weight. Children and teenagers – young athletes with increased physical activity (including those participating in hiking trips) need to increase their daily protein intake to 116-120 g at the age of 10-13 years, and to 132-140 g at the age of 14-17 years. The qualitative features of proteins are taken into account in children's nutrition. Thus, the proportion of animal proteins in the diet of school-age children is 65-60%. Milk protein, as well as all other components of milk, best meet the needs of the child's body. In this regard, milk should be considered an essential product of children's nutrition that cannot be replaced. For school-age children, the daily milk intake is 500 ml. It should be borne in mind that 100 g of milk corresponds to 12 g of dry milk or 25 g of condensed milk. Essential amino acids: lysine, tryptophan and histidine are considered growth factors. Their best suppliers are meat, fish and eggs.

Relevance: Child nutrition and related diseases are one of the most pressing issues today. Also, the decision of the President of the Republic of Uzbekistan "To provide free hot meals to primary school students in 2022" shows the attention focused on this same issue. First and second courses based on instant dry food concentrates are prohibited in school canteens. There are restrictions on certain items in the menu of children's food prepared in schools. According to sanitary rules, in general education, secondary specialized, vocational educational institutions, it is prohibited to prepare and sell in school canteens:х концентратов быстрого приготовления. В меню детского питания, приготовленного в школах, есть ограничения на отдельные позиции. Согласно санитарным правилам, в общеобразовательных, средних специальных, профессиональных учебных заведений в школьных столовых нельзя готовить и продавать:

1. Bread products with meat, mayonnaise, ketchup and vegetables (hamburgers, cheeseburgers and hot dogs); Fast food usually contains genetically modified components and many food additives: preservatives, flavor enhancer glutamate, colorants. Many additives themselves often cause so-called pseudo-allergy. L. Luss draws attention to the fact that if true allergic asthma already exists, then eating "fast food" leads to a more severe course of it. In addition, "fast food" negatively affects the gastrointestinal tract, liver, endocrine and immune systems. Its composition includes a huge number of substances harmful to health, such as a mixture of preservatives, colorants, flavors, stabilizers and transgenic soy [1,7,14,19,21]. Cheap fat substitutes (margarines, which contain trans fats, which are dangerous for the heart and, according to some data, cause cancer) are used to save money. It should be noted that nutritionists have established that the recommended daily intake of trans fats is -1%. However, a serving of French fries contains -30-40%.

Fast food portions are extremely poor in proteins, but they are necessary for the normal functioning of the body. For example, a sandwich contains 9 g of protein, while the required amount is 100 g. Many studies have proven that fast food is unhealthy. Thus, with the systematic consumption of this product, significant disruptions in the functioning of human organs and organ systems were identified, such as diseases of the cardiovascular system, gastrointestinal tract, obesity, etc. The basis for the occurrence of these diseases is the composition of fast food, as well as its calorie content. For example, a serving of French fries contains 3000 calories and 217 g of fat, with a daily norm for a person of 2000-2500 kcal and 65 g of fat. In addition to fat, fast food contains a large amount of sugars, salt, preservatives [1,3,9,12]. All these diseases are caused by the presence of acrylamide, which is found in chips, bread, crackers, etc. In 1994, the International Agency for Research on Cancer (IARC) classified acrylamide as a "possible carcinogen"

[5,14,16,23]. The ability of acrylamide to cause malignant neoplasms and mutations, changing the genotype, was proven in experiments with animals. Thus, the amount of this substance in potato chips is 500 times higher than the maximum permissible level of its content in drinking water, according to special rules of the World Health Organization. With systematic consumption of fast food, frequent surges in sugar in human blood are possible. All this has a detrimental effect on the normal functioning of the pancreas, which can lead to type II diabetes, or to a decrease in the sensitivity of the body's cells to the action of insulin. Excess sugar affects the appearance of excess weight, which in turn affects the cardiovascular system. In addition to a large amount of carbohydrates, fast food contains a lot of trans fats, which increase the cholesterol level in the blood. High cholesterol in the blood increases the risk of stroke and cardiovascular diseases. Fast food products contain a large amount of sodium, the excess of which can retain water in the body. Excess water causes swelling, bloating, and sodium affects the occurrence of urolithiasis and the development of cancer of the kidneys and stomach. In addition, sodium negatively affects the condition of bones, making them more fragile, as a result of which osteoporosis may develop. Fast food products contain a flavor enhancer - sodium glutamate. With frequent use, it causes disturbances in the nervous system, allergic reactions can occur, including asthma and eczema.

2. Confectionery with artificial flavors, colors; Chemical compounds in the product that give it a characteristic aroma. All types of food flavors are classified by their origin. Flavoring preparations are used both as flavors and their components. Essential oils and carbon dioxide extracts of spices are most often used as flavors. Some types of herbal medicinal aromatic raw materials permitted for the production of flavors may contain a number of biologically active or toxic compounds. These are agaric acid, beta-asarone, aloin, berberine, hypericin, quassin, coumarin, pulegone, santonin, safrole and isosafrole, hydrocyanic acid, alpha- and beta-thujones, quinine. The maximum contents of these substances in food products and beverages are limited [6,7,13,17]. Pulegone is found in various types of mint, as well as marjoram; Coumarin — in sweet bison grass, common sweet clover; Safrole — in nutmeg; Quinine — in cinchona bark; Quassin — in Quassia bitter wood; In classic absinthe of the early 20th century, the content of thujone was several times higher. As a rule, the permissible level of content of the considered biologically active and toxic substances ranges from 0.1 to 2 mg/l of the drink. However, in some cases, safe levels of content can be quite high. For example, the content of quinine in soft drinks is allowed up to 85 mg/l, and in alcoholic drinks — up to 300 mg/l. The content of pulegone in soft drinks is standardized at 100 mg/l, however, in drinks with mint aromatic substances, their content is allowed up to 250 mg/l. Toxicological risk when using flavoring substances. More than 6 thousand flavoring substances have been identified in the aroma of natural food products. A person consumes about 1 ton of food products per year (statistics apply to the countries of the European Union and the USA). This ton contains about 500 g of flavoring substances, including only 10 to 25 g of flavoring substances supplied by flavorings, the rest are flavoring substances naturally present in products. Thus, a person consumes 20-50 times less flavoring substances supplied by flavorings than the same substances contained in natural products (without flavorings) [18,19,20,21]. Flavoring safety indicators Flavoring safety indicators are regulated by **SanPiN No. 0283-10 "Hygienic requirements for food safety"** [11,12,13].

Chocolate bars are a high-calorie bomb with a lot of genetically modified products and chemical additives. Chocolate contains sugar, cocoa powder can provoke an allergy, cocoa butter is difficult for a child’s gastrointestinal tract to digest. Chemical additives that are used in confectionery products are propylene glycol, ammonium sulfate, calcium silicate, azodicarbonamide, sodium dihydrogen pyrophosphate, sodium nitrate, carin, titanium dioxide, silicon dioxide. Ammonium sulfate is used to regulate the acidity of baked goods, is approved for use, it is also used as a fertilizer, as an ingredient in pesticides and fire retardants. Calcium silicate is used to prevent caking and is used in a wide variety of products: from sugar and salt to cereals and processed meats. It is also used in insulation materials and in the production of roads. Azodicarbonamide is approved in the US as a food additive (especially for bleaching flour), but is banned in

other countries (Europe and Russia). Some additives previously considered harmless (e.g. formaldehyde E240 in chocolate bars or E121 in soda) were later found to be too dangerous and banned; in addition, additives that are harmless to one person may be very dangerous to another.

3. Products with artificial preservatives "kirieshki", "khrustyashki" and chips, seeds, homemade candies; contain a lot of fats, carbohydrates, a lot of dyes, flavor enhancers and carcinogens. But, in addition to this, they can increase the risk of cancer several times, provoke vascular diseases, anemia, hypertension, indigestion and even gastritis. Fried foods: French fries, potato pancakes ("hashbrowns"), donuts, nuggets, fried pies and other products cooked in deep fat - these dishes contain an excess amount of fat, and, as a rule, saturated - containing mainly saturated fatty acids, often dangerous to health trans-isomers of fatty acids, and frying fats used for frying products are a source of toxic and carcinogenic products of thermal oxidation of fats. Excess saturated fatty acids in the diet lead to an increase in the incidence of atherosclerosis and related cardiovascular diseases in the population.

4. Colored and colorless carbonated drinks; as a rule, they contain aspartame and sodium benzoate. These preservatives can not only change the sensitivity threshold of taste buds, but also cause uncontrollable outbursts of anger, rage, depression or panic. As well as lethargy, allergic reactions, in large quantities - food poisoning and heart problems. Sweet sodas and cocktails contain a lot of sugar. As is known, excess sugar in the diet leads to obesity and the appearance of diabetes symptoms. Sodas and cocktails are diuretics, causing dehydration. Tonic drinks that contain the psychoactive alkaloid caffeine are especially dangerous, which has an extremely adverse effect on the psychoemotional sphere of the child. Carbonated water is water saturated with carbon dioxide, popularly called simply soda. Despite the fact that numerous studies constantly confirm the harm caused by consuming sweet carbonated drinks, adults often drink it themselves and even more often buy it for their children. Carbon dioxide stretches the stomach and increases the pressure inside it, which leads to belching. In addition, the gas can raise stomach acid into the esophagus, which causes heartburn, inflammation and irritation of the mucous membrane.

The effect of carbonated water on various organs and systems of the body of children: Tooth decay. Carbonated drinks contain acids that corrode tooth enamel and contribute to the development of caries and enamel erosion. Belching and heartburn. Carbon dioxide stretches the stomach and increases the pressure inside it, which leads to belching. In addition, gas can raise stomach acid into the esophagus, which causes heartburn, inflammation and irritation of the mucous membrane. Liver disease. Refined sugar, which is found in most carbonated drinks, contains fructose, which is processed in the liver. Carbonated drinks can disrupt the mineralization of bones and teeth, since the body takes calcium from them to neutralize the acid contained in the soda. Kidney disease. Carbonated drinks can provoke urolithiasis, since carbon dioxide contributes to the formation of uric acid and oxalates. These substances can settle in the renal ducts and form stones that can cause pain, colic, infections and kidney dysfunction. Dehydration. Carbonated drinks contribute to dehydration of the child's body. Carbonated drinks do not quench thirst, but increase it, since sugar and salt wash water out of the cells. But even ordinary carbon dioxide, which is absolutely safe for humans, is harmful to health in combination with water. The fact is that the reaction of gas with water results in carbonic acid, and it, in turn, becomes a dangerous solution for the stomach and gastrointestinal tract, causes irritation and provokes inflammatory processes. Carbon dioxide is a preservative and is designated on packages as E290. Sodium benzoate, which is part of carbonated drinks, is used as a preservative in food products. Sodium-based preservatives added to soda water reduce the amount of potassium in the body. Tin cans in which sweet carbonated drinks are sold have a special gum coating inside, which contains BPA (bisphenol-A). This substance causes cancer and problems with the reproductive system: premature puberty in children and other reproductive disorders. The connection between obesity and excessive passion for sweet carbonated drinks has long been proven by various studies

and tests, the risk of getting obesity increases by 1.6 times. Diabetes. For lovers of sweet soda, the risk of getting type 2 diabetes increases by 80%.

5. Meat, fish and poultry that have not passed veterinary inspection, as well as animal entrails, except for the liver, tongue and heart; Products that have not passed veterinary inspection, including meat, fish and poultry, are not included in the school menu due to the risk of transmitting various infectious and parasitic diseases.

6. Eggs with unclean or broken shells that do not meet the requirements; Eggs with unclean or broken shells cause food poisoning. Accordingly, they are considered unfit for consumption.

7. Canned goods with a leaky lid, swollen, rusty, deformed, unmarked and expired canned goods, especially homemade canned goods of various types;

8. Cereals, flour, dried fruits and other products that can potentially be contaminated with pests;

9. Confectionery with cream (cakes and pastries); is harmful for children because it contains margarine, and it is dangerous not only in its pure form, but also as a component of gastronomic delights (cakes, pies, puff pastry, creams). In addition to obesity and lipid metabolism disorders, it can provoke the development of diabetes, and in huge doses - even hormonal imbalance and infertility.

10. Jellied meat, rolls made from bird paws, hooves of ungulates and rolls made from animal internal organs, lung-liver and blood sausages; due to the high fat content and the presence of spices in the recipe, jellied meat should not be given to children. This dish is characterized by a high content of fats and animal protein. It is not recommended for problems with the gastrointestinal tract, kidney stones, cholecystitis and gallbladder diseases, gout.

11. Unpasteurized cottage cheese (in a flask), cottage cheese and cream that have not undergone heat treatment, stored in containers. In the production of dairy products, food flavorings play a very important role. They allow you to: improve the taste and aroma of the product. Yogurts, cottage cheese and cheese desserts and other products have a specific fermented milk smell. Food flavorings make the taste and aroma of a product harmonious: "muffle" the sour milk smell and bring to the forefront the aroma of chocolate, strawberries, pineapple, etc. Titanium dioxide is used as a bleach in coffee cream, salad and many other products. It is not harmful in small doses. But when inhaled by humans, it is a carcinogen. Silicon dioxide is used to prevent sticking, essentially sand.

12. Domestic katyk, milk and dairy products taken from unfavorable epizootic farms, unpasteurized and not subjected to primary processing; The issues of food safety, nutrition and food security are inextricably linked. Unsafe food creates a vicious circle of disease and malnutrition, which particularly affects children, the elderly and the sick. It is estimated that 600 million people, that is, almost 1 in 10 people on the planet, fall ill each year from the consequences of eating food contaminated with microorganisms or chemicals, and 420,000 people die, which leads to the loss of 33 million healthy life years (DALYs). As a rule, foodborne diseases are infectious diseases or intoxications caused by bacteria, viruses or chemicals that enter the body through contaminated water or food. Foodborne pathogens can cause severe diarrheal or disabling infectious diseases, including meningitis.

13. Kymyz and other fermented milk products containing ethanol (more than 0.5 percent); another example: the pink color of some yoghurts is obtained by adding cochineal (E120), a powder of dried insects. Some additives can be considered quite safe (citric acid, lactic acid, sucrose, etc.). However, it should be understood that the method of synthesizing certain additives varies in different countries, so their danger can vary greatly. For example, synthetic acetic acid or citric acid obtained by microbiological means may contain impurities of heavy metals, the content of which is regulated differently in different countries. Over time, as analytical methods develop and new toxicological data appear, state standards for the content of

impurities in food additives may be revised. Food flavorings have made dairy products with the most exotic, “off-season” or simply favorite aromas available year-round. So, now in any store you can easily buy yogurt with mango, processed cheese with salmon or cottage cheese dessert with blueberries. All direct food additives that improve the color, aroma and taste of products; substances that regulate the consistency of products; substances that help increase shelf life; substances that speed up and facilitate the implementation of technological processes, auxiliary materials. Substances that improve the color, aroma and taste of products: dyes; bleaches; color fixatives; flavorings; flavor enhancers; intense sweeteners; sugar substitutes; acidifiers; salty substances.

14. Mushrooms and dishes containing them; Mushrooms contain many antioxidants that suppress chronic inflammation and neutralize free radicals, thereby reducing the risk of cancer, - the specialist noted. Edible mushrooms are a valuable food product. They are rich in vitamins (A, C, group B, D, PP). In certain cases, even edible and safe mushrooms can cause harm to health. For example, the pulp of fruiting bodies often "absorbs" heavy metal salts from the soil and air, and their intake into the body can provoke the appearance of symptoms of intoxication, gastrointestinal disorders and other disorders in the body. The product is also rich in proteins and fiber, and with excessive consumption of these nutrients, diarrhea, nausea, bloating may occur. Mushrooms also contain chitin, which is rather poorly absorbed in the human digestive tract, so the product should be consumed in moderation. You should be careful with mushrooms if you have gastritis, duodenitis, or peptic ulcer disease. The substances that irritate the mucous membranes may cause an exacerbation, the expert noted. There is individual intolerance to mushrooms and allergies to the product. If the body reacts negatively, it is better to refuse to eat them. Mushrooms contain chitin in large quantities, and it is poorly absorbed in the human digestive tract. In children under 10 years of age, it is not digested at all. The most common side effects of mushroom abuse are gastrointestinal disorders, poisoning, and allergic reactions. Salted and pickled mushrooms also contain a large amount of salt, which is harmful for people with high blood pressure. In addition, salt perfectly retains water in the body. Pickled and salted mushrooms will be unfavorable for those who suffer from kidney disease. We will not get the vitamins, minerals, and salts that are contained in raw mushrooms from fried ones, since with such heat treatment the product loses all its beneficial properties.

15. Dry-cured meat products and sausages, including cooked sausage; Current products in this range contain more transgenic soy than meat, plus benzopyrene and phenolic compounds, which are also carcinogens. Sodium nitrite (E250) is usually used in the production of sausages; nitrites are toxic, but in practice it is not banned, as it is considered not particularly harmful, it ensures the product's presentation and, consequently, an increase in sales (you can compare the red color of store-bought sausage with the dark brown color of homemade sausage), and the amount of E250 in meat products is small. For high-grade smoked sausages, the nitrite content standard is set higher than for cooked sausages; it is believed that they are eaten in smaller quantities. Sodium dihydrogen pyrophosphate is used to prevent discoloration. Sodium nitrate in processed meats, such as hot dogs and sausages. Nitrites, used to color sausages pink, cause cancer when consumed regularly, this has been scientifically proven. Phosphates in sausages are needed to retain moisture. But they are dangerous because they disrupt the absorption of calcium. This can lead to osteoporosis or rickets. The World Health Organization recommends completely eliminating ham, sausages and hot dogs from the diet - limiting the total consumption of red meat (in the form of tenderloin or minced meat) to 350 g per week. In addition, cheap sausages may contain low-quality vegetable fats. Their harm to health comes down to the presence of trans fats, which disrupt metabolism. Moreover, new trans fats can actively form in such sausages during the cooking or frying process. Despite the fact that this substance itself is not harmful to health, glutamate increases appetite and promotes overeating - which is ultimately associated with weight gain.

16. Hot spices: vinegar, horseradish, hot pepper (black and red) and others; Spicy and hot foods stimulate the production of gastric juice and can lead to heartburn - throwing the contents of the stomach into the esophagus - especially after heavy meals.

17. Hot sauces, ketchups and mayonnaise, canned food, pickled vegetables and fruits; Mayonnaise and ketchup. Children with diseases of the stomach, intestines, liver, especially in the acute stage, should exclude mayonnaise from their diet. Store-bought mayonnaise uses various mixtures (egg powder, dry milk), additives (emulsifiers, dyes, preservatives) - which give the desired consistency, etc. Flavor enhancers are also added, after which many want to eat this product again and again. The harm attributed to mayonnaise is mainly associated with its high fat content. The health hazard is mainly caused by adding mayonnaise to fried foods or combining it with fatty meat products. Also, mayonnaise contains many preservatives, antioxidants and other additives that can negatively affect the health of children. Mayonnaise, which is produced using low-quality ingredients, can contain bacteria and viruses that can cause various diseases. In addition, mayonnaise can become a source of intoxication if it is stored at the wrong temperature or if its expiration date has expired.

18. Fruit pits, chewing gum, soft drinks and fruit and berry juices that have not undergone heat treatment; Chewing gum and jelly candies. Eating some seeds and pits can lead to poisoning or even death. They can also affect the functioning of the body. For example, grape seeds in large quantities when consumed over a long period of time prevent the body from absorbing protein, and pomegranate seeds are harmful to the intestines and stomach. The pits of apples, pears, peaches, apricots, plums, cherries, and medlars are poisonous to humans: they contain cyanide. If you eat too many of them, it will lead to dizziness, vomiting, or even death. A source of numerous harmful dyes, thickeners, stabilizers, preservatives, and other chemicals. At the very least, a direct path to obesity, tooth decay, and frequent indigestion. Examples of unsafe foods include raw animal foods, fruits and vegetables contaminated with feces, and raw shellfish containing marine biotoxins.

Conclusions: Almost every product reviewed contains food additives that affect children's health. It is worth noting that such food does not benefit the body, because it is not balanced, healthy, and contains many substances that are harmful to the body of children. The greatest harm to the body of children is the high calorie content of fast food products with low nutritional value. If possible, it is worth excluding long-term storage products, since they will always contain a lot of preservatives.

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