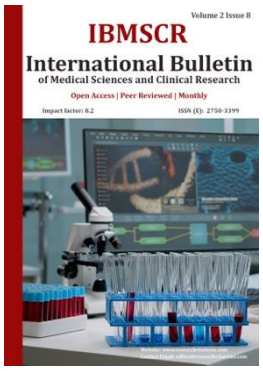

DETERMINATION OF CLINICAL AND STOMATOLOGICAL INDICATORS OF CHANGES IN THE HARD TISSUE OF TEETH UNDER THE INFLUENCE OF CARBOHYDRATES IN CHILDREN.

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Abstract. This article highlights the importance of research on the changes in dental hard tissue caused by exposure to rapidly decomposing carbohydrates in children and the need to improve their treatment and prevention. Dental diseases caused by exposure to rapidly decomposing carbohydrates are widespread, difficult to diagnose and treat, and studies conducted over the past twenty years have shown that up to 15% of oral diseases are caused by rapidly decomposing carbohydrates, and up to 24.5% of these diseases are observed in combination with various syndromes.

Key words. Rapidly decomposing carbohydrates, dental hard tissue diseases, assimilation process, medical and preventive measures, spectrophotometric method, fluorimetric method, electrophoresis, isozyme analysis, statistical method.

There are more than 150 types of rapidly decomposing carbohydrates. Rapidly decomposing carbohydrates are distinguished by their multifaceted effect on the body. Dental diseases caused by the effects of rapidly decomposing carbohydrates occupy a special place due to their widespread distribution and complexity in diagnosis and treatment. Studies conducted in scientific sources over the past twenty years have shown that up to 15% of oral diseases caused by rapidly decomposing carbohydrates occur, and up to 24.5% of these diseases are observed in combination with various syndromes[2,5].

At the same time, the prevalence of dental hard tissue diseases caused by rapidly decaying carbohydrates, which range from 14.2% to 22.5%, indicates the high prevalence of the pathology. This is explained by the fact that the initial stages of the disease proceed without clear symptoms, the inability to obtain sufficient information about changes in both clinical and laboratory tests, and the lack of a single etiopathogenetic approach among specialists. This indicates the need to improve methods of treatment and prevention of the problem[3,6].

In our country, targeted and practical measures are being taken to reform the healthcare system and bring it into line with world standards, measures are being taken to develop effective methods for the prevention, early diagnosis and complex treatment of diseases of the oral mucosa. In this regard, tasks have been set such as increasing the efficiency, quality and accessibility of medical care, as well as forming a medical standardization system, introducing high-tech methods of diagnosis and treatment. These tasks include the implementation of the practice of improving the treatment and prevention of dental hard tissue diseases caused by rapidly decomposing carbohydrates, one of the current scientific directions[4,7].

Carbohydrates are compounds made up of carbon, oxygen, and hydrogen atoms, and are starchy or sugary substances. Each of them contains different elements and performs different functions. Carbohydrates are divided into two types: simple and complex. Simple carbohydrates include monosaccharides and disaccharides, and it is impossible not to notice their sweet taste in products. Glucose, fructose, galactose, lactose, sucrose, and maltose belong to this group, they dissolve quickly in water, are easily absorbed by the body, and have the property of quickly providing energy[3,9].

Complex carbohydrates contain polysaccharides, including starch, fiber, glycogen, and pectin. After entering the body, carbohydrates perform a number of functions in addition to providing energy:

Cleanses the gastrointestinal tract. Not all substances in food products are beneficial to the human body. Thanks to fiber and other carbohydrates, the body is cleansed. Otherwise, poisoning of the individual could occur[3].

Glucose nourishes the brain tissue and heart muscle and participates in the formation of glycogen, a component necessary for liver function.

Carbohydrates strengthen the body's immunity and protective functions. Heparin reduces excessive blood clotting, and polysaccharides enrich the intestines with necessary active substances, increasing the body's resistance to various infections. Carbohydrates provide the structure of the human body. Without carbohydrates, the formation of a number of types of cells in the body, including nucleic acids and cell membranes, is inhibited. Carbohydrates control metabolic processes in the body. Accelerate and slow down the oxidation process. Carbohydrates are involved in the assimilation of proteins and fats that come with food. In order for carbohydrates to benefit the body, not harm it, they should be consumed in limited quantities[15].

Diseases that develop due to an excess of carbohydrates in the body: The main problem caused by excessive consumption of carbohydrates is a violation of metabolism, which leads to a number of other consequences:

- Slows down the rate of breakdown of nutrients;
- Disrupts the hormonal background;
- Increases the rate of conversion of carbohydrates into fat molecules;
- Causes a decrease in insulin-producing cells in the pancreas and the development of diabetes mellitus;
- Increased blood sugar levels increase platelet aggregation;
- Increases the risk of blood vessel wall fragility, heart problems, heart attack and stroke.
- Glucose and fructose in the oral cavity create a breeding ground for pathogenic microflora, which leads to tooth enamel disintegration, discoloration, and caries.

To normalize the amount of food consumed, carbohydrates should be consumed in the following amounts:

- Children under one year old should be given 13 grams of carbohydrates per 1 kg of body weight;
- Adults under 30 years old who do not engage in heavy physical exertion are recommended to consume 300–350 grams per day;
- After 30 years of age, this norm is reduced to 50 grams;
- All norms for women should be lower than 30–50 grams;

• People involved in sports or leading an active lifestyle are allowed to consume 40–50 grams more carbohydrates than the norm. For the self-cleaning function of the intestines to work well, the amount of fiber in the diet should be at least 20 grams. For people who do not work evening and night shifts, it is not recommended to eat carbohydrate-rich foods on an empty stomach. This is because at this time, metabolic processes slow down and the released energy is not spent[5,8,11].

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