



Eating during puberty

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Abstract. Both teenagers and their parents are interested in nutrition issues during puberty. Most often, this is explained by the desire of the former to get rid of figure problems that may arise during this period, and the desire of the latter to sincerely help their children get through it painlessly.

Key words: food during puberty, recommendations, benefits, harm, beneficial properties, contraindications

What is puberty

Puberty, or *puberty*, is a natural process as a result of which changes occur in a teenager's body that make him an adult capable of procreation. It is triggered by signals that come from the brain to the gonads. In response to them, they produce certain hormones that stimulate the growth and development of the brain, skin, bones, muscles, hair, breasts, and reproductive organs.

In girls, puberty usually occurs between the ages of 9 and 14 years and is controlled primarily by hormones such as estrogen and estradiol; **in boys**, it occurs between the ages of 10 and 17 years. Accordingly, testosterone and androgen take the "reins of power" for them.

All these changes are often visible to others with the naked eye. And it's not even a matter of enhanced growth and development of individual organs and systems. And in mood swings, irritability, and sometimes aggressiveness that are associated with puberty. During this same period, many teenagers experience low self-esteem, self-doubt and dissatisfaction with themselves.

Recently, scientists have started talking about premature puberty, which can begin in girls at an earlier age. Various factors can provoke it, as well as delay it:

Genes - in 2013, scientists from the University of Sao Paulo in Brazil, together with their Boston colleagues, published a sensational article in the New England Journal of Medicine. As a result of research, they discovered a new gene - MKRN3, which in some cases provokes the development of premature puberty. In addition, it is a well-known fact that 46% of girls begin puberty at the same age as their mothers.

Environment - There is an opinion that phthalates - chemicals that are used in the production of toys, plastic products or cosmetics, as well as waste from pharmaceutical companies specializing in the production of sex steroids, being incompletely processed, end up in the environment. And even in low concentrations they can provoke the onset of early puberty (at 7 years of age and earlier).

Racial or national differences : the onset of menstruation in girls of different nations varies between 12 and 18 years. Representatives of the Negroid race experience menarche earlier than others, while representatives of the Asian race who live in mountainous regions experience menarche later than others.

Diseases - some of them can provoke a hormonal surge and, as a result, the onset of early puberty.

Nutrition.

The influence of food on puberty

Diet has a tremendous impact on the process of sexual development, especially in girls. Excessively fatty and high-calorie foods, which bring additional energy that is not used by the body, subsequently accumulate in it in the form of subcutaneous fat. And, as you know, it is responsible for bearing and feeding offspring and, at some point, signals that its quantity is already sufficient and the body is ready for procreation. This is confirmed by the results of studies conducted at the University of Michigan and published in 2007 in the journal *Pediatrics*.

Scientists also note that in families of vegetarians, puberty in girls begins later than in families of meat-eaters. In addition, poor nutrition, as well as a diet high in the hormone IGF-1 (insulin-like growth factor-1, which is produced more actively in the body when eating meat and milk) can provoke premature sexual development.

German scientists from the Fulda University of Applied Sciences also pointed out the effect of animal protein on puberty. They were able to prove that “girls whose diet contained a high content of animal protein entered puberty six months earlier than those who consumed it in smaller quantities.”

Vitamins and microelements during puberty

Puberty is characterized by increased growth and development of all organs and systems. This means that during this period, adolescents need a varied and balanced diet, which should include:

- Protein – it is responsible for the growth of cells, tissues and muscles of the body. It comes from meat and dairy products, fish, seafood, as well as legumes, nuts and seeds. [1]
- Healthy fats are those found in nuts, seeds, avocados [2], olive oil and fatty fish. They should not be neglected, as they ensure the growth and development of the brain.
- Carbohydrates are sources of inexhaustible energy that enrich the body through the consumption of whole grain products. [3]
- Iron - this microelement is extremely necessary during puberty, as it is directly involved in the processes of growth and development of all organs and systems. The level of hemoglobin in the blood and the synthesis of immune cells depend on it. For representatives of the strong half of humanity, iron helps strengthen bones, and for representatives of the weak half it helps to replenish blood loss during menstruation. Its deficiency leads to weakness, increased fatigue, headaches, depression, irritability, frequent incidence of influenza, ARVI, etc. Iron is found in seafood, meat, eggs, legumes and dried fruits. [4]
- Zinc – it is also necessary for the growth of the body, as it takes part in metabolic processes and is responsible for the formation of the skeleton and the functioning of the immune system. You can enrich your body with it by consuming seafood, lean meat, legumes, nuts, and cheese. [5]

- Calcium [6] and vitamin D [7] – the bones of a growing organism need them most. The source of these substances are all kinds of dairy products.
- Folic acid - it takes part in the processes of hematopoiesis, cell division and amino acid synthesis and is found in nuts, legumes, liver, spinach, cabbage. [8]
- Magnesium is a mineral that helps fight stress and is obtained primarily from nuts, grains and legumes. [9]
- Potassium - it has a positive effect on the functioning of the heart and brain, prevents the occurrence of depression and is found in nuts, bananas, potatoes, legumes and dried fruits. [10]
- Vitamin K – This is essential for bone health and is found in spinach and various types of kale. [eleven]

Top 10 Foods for Puberty

1. Chicken meat is a source of protein, which is a building material for the body. You can replace it with other lean types of meat.
2. All types of fish - they contain protein, healthy fats, polyunsaturated acids omega-3 [12] and omega-6, which are responsible for brain function, as well as phosphorus, potassium and magnesium.
3. Apples are a source of iron and boron, which strengthens bones. In addition, they improve digestion, effectively cleanse the body and prevent excess weight. [13] _
4. Peaches – they enrich the body with potassium, iron and phosphorus. They also improve the functioning of the brain and heart, relieve nervous and emotional tension. [14] _
5. Citrus fruits are a source of vitamin C and antioxidants [15], which boost immunity and help the body fight stress.
6. Carrots - they contain potassium, calcium, phosphorus and iron, as well as vitamins A, B, C, E, PP, K. Regular consumption of carrots improves vision and the functioning of the cardiovascular system, prevents depression and excess weight. [16] _
7. Buckwheat – it enriches the body with iron, potassium, calcium, iodine, zinc, vitamins B, PP, E. And it has a positive effect on the functioning of the cardiovascular system and intestines, and also promotes the mental and physical development of children. [1 7]
8. Water – its role in the body is difficult to overestimate. It is equally useful for people of all ages, as it is a nutrient medium for cells, improves well-being, takes part in metabolic processes and prevents excess weight. [18] _
9. Milk is a source of magnesium, calcium, phosphorus and zinc.
10. Any types of nuts - they contain healthy fats, protein, vitamins A, E, B, PP, as well as potassium, magnesium, calcium, iron, phosphorus, etc.

What else should you do during puberty?

- Avoid excessively fatty and salty foods. The first can cause excess weight gain, which is the cause of many problems in adolescents. The second is to delay the onset of puberty.
- Playing sports will help you control your weight and cope with stress.
- Find a hobby - it will make it easier to cope with stressful situations, improve your well-being and raise your self-esteem.
- And finally, just love yourself for being one of a kind! And this will help not only overcome any difficulties, but also sincerely enjoy life!

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