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## **IMPORTANCE OF DIET IN DIABETES**

**Abstract:** This article discusses diabetes types 1 and 2 and some aspects of nutrition for diabetes mellitus. The authors came to the conclusion that the main goal of all therapeutic measures for diabetes mellitus, including diet, is to prevent the development of complications of the disease.

**Keywords:** Autoimmune disease, beta cells, insulin-dependent, insulin therapy, bread unit, glycemic index.

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## **INTRODUCTION**

Diabetes mellitus is a chronic disease. Diabetes mellitus (DM) is a metabolic disorder characterized by increased levels of glucose in the blood. It increases due to the lack of insulin (a pancreatic hormone that lowers blood glucose levels) or a malfunction of this hormone. The body either stops producing insulin (the beta cells of the pancreas cannot produce it), or the insulin acts weaker than the body needs. Diabetes mellitus (diabetes mellitus), usually simply called “diabetes,” has been known to mankind since ancient times.

## **MATERIALS AND METHODS**

Diabetes – “diabetes” is Latin for “flowing through” and “mellitus” means “sweet as honey.” Previously, diabetes was described as either “insulin-dependent” (IDDM) or “non-insulin-dependent” (NIDDM). Nowadays, the terms type 1 diabetes and type 2 diabetes are more commonly used. Type 1 diabetes is an autoimmune disease of the endocrine system. Autoimmune diseases are a class of diseases with heterogeneous clinical manifestations that develop as a result of the pathological production of autoimmune antibodies or the proliferation of autoaggressive clones of killer cells against healthy, normal tissues of the body, leading to damage and destruction of normal tissues. (the body’s immune system malfunctions and “eats” the beta cells of the pancreas, which are responsible for the production of the hormone insulin).

## **RESULTS AND DISCUSSION**

Type 1 diabetes is insulin-dependent, which means it needs to be treated with insulin immediately after diagnosis. In this type of diabetes, pancreatic cells are destroyed by an autoimmune process. This eventually leads to complete loss of insulin production. Without insulin, glucose remains in the bloodstream, so blood glucose levels rise, especially after meals. The onset of the disease is typical for people under 35 years of age, but can occur at any age. Treatment is insulin therapy. The causes of this type of diabetes are still being studied. Heredity plays a certain role. Possible causes include toxic effects and viral damage.

Type 2 diabetes is also called adult-onset diabetes because its onset usually occurs after age 35, but has recently become more common in children, adolescents, and young adults. In most cases, it is associated with being overweight [1]. In this type of diabetes, the ability to produce insulin does not disappear completely. But the body gradually becomes resistant (unresponsive) to insulin. The body's sensitivity to the action of insulin worsens due to excess amounts of altered fat tissue, which prevents insulin from working properly. The basis of therapy is lifestyle correction: diet, regular physical activity. Medicines with different mechanisms of action are also used. In some cases, insulin may be required to treat type 2 diabetes. The main factors for the development of type 2 diabetes include family history, a sedentary lifestyle, obesity, arterial hypertension and the presence of concomitant cardiovascular diseases [2].

It is well known that the treatment of most chronic diseases involves nutrition. Diet therapy is one of the main components of complex treatment of diabetes. Type 1 diabetes is one of those few diseases in which diet is as important a component of treatment as drug therapy, and largely determines the success of treatment. It is necessary to understand from the very beginning of the disease that only proper nutrition planning allows you to maintain target blood glucose levels and avoid complications in the future. According to modern concepts, the diet of a person with type 1 diabetes should be as close as possible to the healthy diet of healthy people. The main thing is to correctly compensate for those carbohydrates that are eaten with the required amount of insulin, since it is the carbohydrates eaten that increase the level of glucose in the blood. There are several ways to count carbohydrates in your diet. In our country, the most common method is called the “Bread Unit System” (BS). Using this system, you can quite simply and quickly determine the amount of carbohydrates in your diet. There are so-called “BS Tables”, which indicate the number of grams of product per 1 BS. 1 BS corresponds to 10–12 grams of carbohydrates [3]. But still, different products with a volume of 1 BS increase the level of glucose in the blood in different ways. To describe the characteristics of the influence of various foods on blood sugar, the concept of glycemic index (GI) was introduced, which shows how strongly a given product increases blood sugar. The GI of foods is determined by several factors: the type of carbohydrates (fast or slow), method of preparation, amount of dietary fiber, combination with other nutritional components (fats, proteins), etc. Products, depending on their effect on blood glucose, are divided into groups with high, medium and low GI. Thus, 1 BS contained in a glass of fruit juice will increase blood sugar levels faster and more strongly than 1 BS contained in 2 tablespoons of pasta.

## **CONCLUSION**

So, the main goal of all therapeutic measures for diabetes, including diet, is to prevent the development of complications of the disease.

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