

Importance of Medicinal Plants in Diabetes and its Treatment

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Abstract: In this article, the researches and their results on the reduction of blood sugar in patients with diabetes with the help of medicinal plants are described.

Keywords: diabetes, glycogen, medicinal plants, insulin.

The use of medicinal plants and their healing properties goes back to the distant past of human history, and it has not lost its importance even now. The demand for medicines obtained from medicinal plants has increased sharply in recent years. Currently, 40-45% of the drugs used in folk medicine, traditional medicine and scientific medicine are obtained from natural sources, especially plants.

From more than 4500 species of plants growing on the earth, distinguishing the possessors of healing properties, determining whether they are a medicine for a certain disease, and recommending and applying them to practice is a chemist, herbalist and pharmacist who conducts scientific research on medicinal plants today. remains the main task of scientists.

The pancreas has a special place in the human internal gland system. There are two types of cells (a and b) in the islets of Langerhans of this gland. If the β -cells of the gland do not produce enough insulin, the metabolism is disrupted, and sugar is not absorbed by the body and is excreted through the urine. The product of this gland, the hormone insulin, ensures the metabolism of carbohydrates in the body.

If the insulin hormone is low, the synthesis of glycogen in the tissues is disrupted, which leads to an increase in blood sugar. The body, in turn, tries to remove excess sugar through urine. In this case, carbohydrate metabolism in the body is disturbed, and diabetes mellitus appears.

There are many causes of this disease: diseases of the central nervous system, severe fear, severe nerve compressions, injuries, brain damage, various infectious diseases, inflammation of the pancreas, obesity, etc.

There are two types of diabetes: insulin-dependent and non-insulin-dependent. The first type appears mainly in adolescence and young adulthood. The main symptoms of the disease are thirst, dry mouth, large amounts of urine, weight loss, and weakness. At this time, there is no insulin in the blood of patients or its amount is sharply reduced. For patients suffering from the first type of diabetes, insulin is injected into the body.

In non-insulin-dependent type, the islet cells of the pancreas retain the ability to produce insulin, and the amount of insulin in the blood is normal or slightly above the norm. However, due to a sharp decrease in the sensitivity of body tissues to insulin, insulin does not give its full effect. Due to this, absorption and use of glucose by tissues decreases and it accumulates in the blood. Obesity is the main cause of tissue insensitivity to insulin.

As a result of neglecting the consequences of this disease among the local population, many people are suffering from various serious diseases. Diabetes can cause the following complications. Damage to small vessels, deterioration of blood circulation, deterioration of the patient's vision, even blindness, damage to the kidneys, swelling in the body. Eventually, diabetic patients develop gangrene, and the brittle leg is surgically amputated. This condition also applies to the vessels of the kidney, liver, lungs, and brain.

One of the main means of preventing diabetes is diet, along with which it is advisable to use various natural medicinal plants. There are about a hundred natural plants for the prevention and treatment of diabetes, and theoretical and scientific knowledge about some of them is reflected in research. Among them, bitter melon (*Bryonia dioica*), Jerusalem artichoke (*Helianthus tuberosus*) is now consumed among the local population and it shows its positive effect.

We conducted our research using the underground part of Jerusalem artichoke (*Helianthus tuberosus*), that is, the nodule. The appearance of this plant is similar to the sunflower, but it differs from it in the fact that its baskets are small, it is a perennial plant that forms pear-shaped underground nodules. Its height reaches 3 meters, it is woody, covered with thick hairs, the leaves are large, simple, long-lobed.

In March 2023, potatoes of this plant were planted in the city of Kokand for the research of Jerusalem artichoke, they were planted in furrows at a distance of 20-30 cm at a depth of 8-10 cm. The distance between the furrows is 60 cm. It sprouted from the ground in a week. It develops quickly, the plant grows like a seed, grows to a height of 2-4 meters, flowers in August-September. Loves moisture. The leaf can be used as a tea or added to tea.

The plant was harvested in October. Then the necessary part of the potato (nodule) was dug, and the rest was left for next year's harvest. It was recommended to patients to boil 1-2 kilograms of the collected stem in 5 liters of water for 20-25 minutes and mix it with 25 liters of water for bathing. On average, 4 pieces of potatoes are washed and put in water, after 30 minutes the skin is peeled and put in water again, it can be eaten raw during breakfast, the rest is cut into small cubes and boiled in 1 liter of water. It is recommended to boil the water for 10-15 minutes and drink it when thirsty. Potatoes can be used to prepare somsa, manti, and salads.

Contrary to the information given in the scientific literature, we conducted a study on the use of Jerusalem artichoke juice in the treatment of patients named A, B, C. For this, 4-5 pieces of corn were thoroughly washed, peeled, and then juice was extracted, and the juice was given to the patients 25-30 minutes before meals every day. The advantage of this recommendation over the above is that it is convenient for consumption. In our above patients, who are consuming yernok in this way, the sugar level decreased.

Jerusalem artichoke prevents blood pressure, diabetes, stroke, heart attack, dissolves salt, sand, silt and nitrates in blood vessels, gastrointestinal tracts, joints.

References

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