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The Importance of Phytotherapy In Diabetesia, Analysis of Medicinal Plants and Methods of Their Application

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Abstract: This article discusses the importance of phytotherapy in diabetes mellitus, medicinal plants used in medicine to lower blood sugar levels, and biologically active additives derived from them and various remedies based on them used in diabetes prevention. During the research, the results of studying several representatives of medicinal plants and their properties, instructions for use, and their technological properties are presented.

Keywords: Diabetes, glucose, insulin, metabolism, phytotea, bioactive additive, infusion, decoction.

Introduction: Currently, there is a growing demand and interest in medicines of natural origin in our country and abroad, especially medicines obtained on the basis of medicinal plants. The terms phytopreparation, phytobar, or phytotherapy are accepted by the general public. The variety of phytopreparations and various teas sold in pharmacies is also increasing. Along with the development of the phytocosm, the requirements for it are also increasing, increasing the quality and competitiveness of products. Effective clinical trials of new plant-based molecules and a reduction in the proportion of chemotherapeutic agents are becoming a requirement of the times. It should be noted that phytopreparations cannot replace treatment with fullfledged medications, but with their help, it is possible to strengthen health and normalize the patient's general condition.

Type 2 diabetes mellitus is an endocrine disease characterized by impaired glucose tolerance. It is

among the top ten fatal diseases [1]. The pancreas produces a sufficient amount of the hormone insulin, but the impaired sensitivity of tissues to glucose leads to the inability to break down sugar. To achieve normal glucose levels, sugar-lowering medications, special diets, and physical exercises are used. Medicinal plants also participate in reducing blood glucose levels in type 2 diabetes mellitus, and additionally introduce vitamins into the body and strengthen the immune system [2].

Purpose of the work. Study of the importance of medicinal plants in the treatment of diabetes mellitus and the properties of some medicinal plants recommended for use.

METHODS

Raw materials used to normalize blood and urine sugar levels, i.e., plants that exhibit medicinal properties due to natural compounds similar to insulin in their composition, such as blue cornflower, clover,

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blueberry, and andiz, were analytically studied. By regularly using the above-mentioned medicinal plants, it is possible to reduce the dose of sugar-lowering drugs and even replace them. It has properties of natural removal of excess glucose from the body, prevention of diabetic complications such as damage to eyes, liver, kidneys, blood vessels, skin, restoration of pancreatic function, strengthening general health, increasing immunity, improving psychological state, normalizing sleep [3].

RESULTS

When collecting medicinal plants from natural areas, it is preferable to collect them from representatives growing in ecologically clean areas, such as mountains, forests, riverbanks, plains, and similar areas where human intervention is minimal. The use of roadsides, industrial zones, animal pastures, and raw materials of unguaranteed quality is not recommended.

Plants used in type 2 diabetes. When treating diabetes, the type of plant is selected according to the set therapeutic objectives. Since plants that restore metabolism are directly related to the disruption of metabolic processes in tissues in type 2 diabetes mellitus, it is necessary to use plants that enhance metabolic processes during the disease. In this case, plants such as plantain, lemon grass, dandelion, black tea, and mingbarg are used. For general strengthening of the organism, wormwood, chicory, ginseng, hibiscus, fragrant ruta and others are used, while sugar-lowering agents include nettle root, meadow clover, andiz leaves, blueberry leaves, cufflinks, licorice root and others. Medicinal plants are used separately, as well as in combinations of several plants. In addition, a separate plant extract or a mixture of several plant extracts in certain proportions is used. In addition, a separate plant extract or a mixture of several plant extracts in certain proportions is used. Despite the seemingly safe nature of phytotherapy, in some cases, treatment with plants is strictly prohibited, and these include: a predisposition to allergies, severe diabetes, and its life-threatening complications - hypoglycemic, hyperglycemic coma, and other conditions.

Medicinal plants that lower sugar levels. Sugarlowering plants are part of many preparations used for type 2 diabetes mellitus. These plants are rich in insulinlike substances that regulate blood glucose concentration [4].

Centaurea (Centaurea cyanus L.) is an annual herbaceous plant of the Asteraceae family, reaching up to 1 m in height. Its product contains essential oils, vitamins and minerals, anthocyanins, coumarins - cycornine, as well as glycoside-centaurin and other substances [5]. It is recommended to drink a decoction

made from the plant's root.

Preparation method: crush the dried leaves and roots of the plant, place one tablespoon of raw material in an enameled dish, pour a glass of boiling water over the product, let it steep in a water bath for about 25 minutes, cool the prepared decoction, strain through a cloth or fine sieve. The drink should be taken one tablespoon three times a day before meals. The course of treatment is 30 days.

Clover (Trifolium) is an annual, biennial, and perennial herbaceous plant belonging to the legume family; its leaves contain carotene, phytoestrogens, flavonoids, tannins, proteins, fats, organic acids, numerous vitamins, and minerals. It has been scientifically proven that celery helps normalize glucose concentration in the body [6].

Preparation method: add one teaspoon of chopped clover leaves to one cup of cooled water, mix well, let steep for half an hour, then strain the drink and drink 2 tablespoons each time before meals. The drinking period should last at least one month.

Blueberry leaves. The fruits and leaves of common blueberry (Vaccinium myrtillus L.) contain a large number of components that can have a positive effect on the whole organism. These include amber, apple, acetic acid, beta-carotene, vitamins, and essential oils. In diabetes mellitus, the plant helps improve pancreatic function, saturate the body with vitamins, and restore normal glucose levels [7].

Preparation method: Add one tablespoon of crushed dried plant leaves to 500 ml of boiling water, let it steep in steam or water bath for at least half an hour, then remove the decoction from heat and let it steep well. Drink 50 ml 4-5 times a day for 30 days, regardless of meals.

Anise (Jnula helenium L.) is a perennial herbaceous plant belonging to the Asteraceae family. The product consists of thick roots and rhizomes. To stimulate pancreatic function and reduce blood sugar levels in the body, patients with type 2 diabetes are prescribed decoctions made from andiz root [8].

Method of preparing the decoction: pour half a liter of boiling water over one tablespoon of peeled and chopped root vegetables, let it steam in a steam bath for about an hour, cool the prepared decoction, and strain through a fine sieve or cloth. The drink should be taken half a glass twice a day before meals.

Method of preparing the tincture: 500 ml of alcohol or plain vodka should be mixed with 50 g of dry andiz root, the tincture is kept in a dark room at a cool temperature for at least 8-10 days. After preparation, it is filtered and stored in the refrigerator. The obtained medication is taken 20 drops three times a day.

To restore metabolic processes, people with diabetes are recommended to use medicinal plants that improve metabolism in the body. Such plants include plantain, lemon grass, and dandelion.

Plants with general strengthening and vitamin content. Herbs containing vitamins help saturate the body with necessary vitamins and minerals, strengthen immunity, improve emotional state, and normalize the function of all internal organs and systems. These include dodder, brusnika, ginseng, eleutherococcus [9].

CONCLUSION

Thus, our analytical studies show that medicinal plants used in the treatment and prevention of diabetes mellitus can be used in combination with full-blooded drugs, even as a substitute for them. Based on the above information, it can be concluded that plant materials, infusions, decoctions, and other forms of anti-diabetic agents are currently widely used in practice. In experiments, it has been proven that the therapeutic effectiveness of biologically active antidiabetic supplements depends on the base of plantbased active substances. Therefore, the use of medicinal plant materials is becoming increasingly important.

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