

RELEVANCE OF ZINGIBER OFFICINALE-BASED HYPOGLYCEMIC ACTION PHYTOPREPARATION DEVELOPMENT

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Introduction. Disease of diabetes is one of the most serious in modern endocrinology. The increase in the incidence of diabetes mellitus, early disability of patients, high mortality in this pathology require effective prevention and therapy.

In recent decades, the interest of diabetologists around the world to study the pharmacological properties of medicinal plants has increased, since natural biologically active substances are evolutionarily more closely related to the human body than synthetic ones, they are easily included in metabolic processes and have practically no side effects. They render positive effect not only on carbohydrates metabolism, but also on lipids metabolism, regulate water balance, normalize functional activity of kidney and liver, increase adaptation abilities of a body at ecological stress.

It should be noted, that phytotherapy might be used both alone and in combination with synthetic hypoglycemic agents depending on severity and nature of the disease. At this phytopreparations possess the ability to potentiate the action of synthetic medicines, that enables lowering dosage of the latter and, as a consequence, reduce negative side effects of pharmaceutical therapy.

The aim of our work – study of vegetable raw materials of hypoglycemic action, study of modern condition of Ukrainian pharmaceutical market as for phytopreparations based on them in order to evaluate the prospects of new domestic medicines creation.

Materials and methods.

The analysis was carried out on the basis of phytotherapeutic reference books, official publications and electronic sources: the State Register of Medicinal Products of Ukraine, the Compendium Handbook (2016).

Results and discussion. Studies have shown that currently, for the treatment of type II diabetes mellitus, the following vegetable raw materials are mainly used: bilberry shoots, bean pods, rhizomes and roots of elecampane, roots of dandelion, burdock, etc.

According to the literature a promising plant for the treatment of type II diabetes is *Zingiber officinale*. Ginger contains in its composition essential oil (5-

3%), vitamins C, B1, B2, essential amino acids. Burning taste is due to the presence of a phenolic compound (gingerol).

Due to its composition, ginger restores the absorption of glucose in the body and stimulates β -cells of the pancreas on a par with the above-mentioned common sugar-reducing plants. In addition, it has antioxidant, anti-inflammatory, antimicrobial, spasmolytic activity, lowers cholesterol in the blood. Due to its properties, it is a part of medicinal forms Antifront (Hungary), Bronchomed, Doctor Mom, Doctor cough, Travisil, Cofol (India), Vivabon (Pakistan), Actis, Liponorm, Lipomin, Osteoarthritis Active (Australia), Maraslavin (Bulgaria) for application in different fields of medicine.

The analysis of the pharmaceutical market in Ukraine conducted had shown the presence of a small amount of hypoglycemic action phytopreparations. On the basis of medicinal plant raw materials, only 2 mono preparations are offered (blueberry shoots and bean pods by the manufacturer - JSC "Lectravy", Zhytomyr, Ukraine), which are presented in the form of crushed vegetable raw materials, as well as combined blends - Arfazetin (JSC "Lectravy" Zhytomyr, Ukraine), Sadifit (PF "Viola" Zaporozhye, JSC "Lectravy" Zhytomyr). It should be noted that preparations of hypoglycemic action on the basis of ginger in the pharmaceutical market of Ukraine are absent.

Conclusions.

Medicinal plant raw materials due to the multicomponent composition can be used as a means of treating diabetes mellitus both independently and in combination with other hypoglycemic agents.

On the pharmaceutical market of Ukraine, a small number of phytopreparations for the treatment of type II diabetes mellitus is presented, which confirms the urgency and expediency of developing new domestic drugs.

A promising medicinal plant for the creation of hypoglycemic phytopreparations on its basis is *Zingiber officinale*.