

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



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The aim of the study was to examine morphological changes of kidney tissues at the correction with exogenous glutathione (Hehaval) in the experimental model of I/R AKI.

Material and methods. Research was conducted on 21 mature non-linear white rats weighting 130-180 g, randomly divided into 3 groups (n = 7): I group – control (pseudooperated animals), II group – modeling of ischemia-reperfusion kidney injury, III group –administration of Hehaval (Hepaval, Valartyn Pharma, Ukraine) at a dose of 30 mg/kg. prior to I/R AKI modeling. Histological examination was conducted by hematoxylin and eosin staining of kidney tissue sections.

Results. The analysis of kidney histosections of rats in the pathology group allowed us to establish significant morphopathological changes in the structure of the kidneys in the form of necrosis and dystrophy. In the kidneys of animals of the model pathology group, changes cover 89.1% of tubular epithelium cells, 10.4% of them are in the state of coagulation necrosis, and the rest are nephrocytes with signs of dystrophic changes of various damage degrees. Thus, 75% of epitheliocytes are characterized by dystrophy in the form of hydropic swelling, and 3.7% of cells are with signs of hydropic vacuolization. Pronounced changes are also present in the medulla renalis, where the expansion of the lumens of the collecting tubules is revealed, while 6.7% are filled with hyaline cylinders. There are areas with haemorrhages. In the Hepaval group, the histostructure of the kidneys approached to the control group. There were no practically necrotized epitheliocytes, and the number of affected nephrocytes was 64.2%, among which 60.3% of cells were in the state of hydropic swelling, and 3.9% - with signs of hydropic vacuolization. The collecting tubules of the medulla renalis are slightly expanded, and single hyaline cylinders are found.

Conclusions. The results of the study confirm the presence of nephroprotective activity in Hepaval in ischemia-reperfusion kidney injury, which, accordingly, was verified by the data of histological studies, giving a background for further research of its nephroprotective potential in conditions of AKI of different etiology.

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PROSPECTS FOR THE USE OF PHYTOPREPARATIONS IN THE TREATMENT OF TYPE 2 DIABETES

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Introduction. Diabetes mellitus type 2 is a chronic endocrine disease characterized by persistently elevated blood glucose levels and impaired insulin tolerance. Diabetes mellitus type 2 counts for 90-95% of all reported cases of diabetes. Given the global pandemic situation, patients with diabetes should be diagnosed and treated as soon as possible, as the risk of developing COVID-19 in such patients is much higher. This risk can be reduced, but not completely eliminated, by maintaining good glycemic control and treating diabetes on time and correctly.

The aim of the research is to determine the future of phytodrugs and the rational combination of medicinal plants in phytodrugs used in the treatment of type 2 diabetes.

Materials and methods. The extracts of *Taraxacum officinale* roots and rhizomes and *Inula helenium* rhizomes were used in the study. Arphasetin, a registered and permitted medicinal herbal preparation with evidenced sugar-reducing activity, was used as a comparison drug.

Results. In contrast to synthetic drugs, phytodrugs have a mild physiological effect on the body, the effect of which develops gradually but steadily, without any side effects and contraindications, have relatively low toxicity and high efficiency due to a complex of natural biologically active substances, which allows safe administration and long-term use of phytodrugs for type 2 diabetes prevention and treatment. A number of plants with hypoglycemic action can be used for diabetes treatment and as an adjunct to maintenance therapy. As a result of the presence of stevioside, *Stevia rebaudiana* has a beneficial effect on patients with type 2 diabetes. The pharmaceutical market is represented by the following drugs: "Stevia leaves," "Stevia extract," "Stevia syrup," and "Stevioside," which are used as hypoglycemics, sedatives, tonics, and weight

loss agents. *Vaccinium myrtillus*, which contains the glycosides myrtilin and neomyrtilin, has anti-diabetic activity as well as a regenerating effect on the pancreatic parenchyma. Blueberry preparations such as "Blueberry extract" and "Blueberry shoots" are used to treat mild forms of diabetes. Sash pods of *Phaseolus vulgaris* are used in the drugs "Glyfazin" and "Imunin - Norton," which have hypoglycemic, diuretic, and antibiotic properties due to the presence of betaine, amino acids, choline, and hemicellulose. Because of its high concentration of anthraglycosides, resins, essential oils, enzymes, and amino acids, aloe vera improves glucose tolerance, has anti-inflammatory activity and promotes wound healing. On the pharmaceutical market, the following drugs are available: "Aloe extract liquid - Darnitsa," "Aloe tablets," and "Aloe extract." Only two herbal anti-diabetic teas are currently registered in Ukraine: "Arfazetin" and "Sadifit," which contain plants such as *Vaccinium myrtillus*, *Phaseolus vulgaris*, *Eleutherococcus senticosus*, *Rosa canina*, *Equisetum arvense*, *Hypericum perforatum*, *Chamomilla recutita*, *Helianthus tuberosus*, *Stevia rebaudiana*, *Mentha piperita*, *Thea sinensis*. The complex of biologically active substances allows them to regulate digestive tract function, stimulate pancreatic activity, and normalize metabolic processes. The use of phytodrugs results in a reduction in the daily dose of oral antidiabetic drugs in patients with type 2 diabetes. *Inula helenium* and *Taraxacum officinale* are promising in the use and research of medicinal plant raw materials as hypoglycemic agents. We discovered that extracts of *Taraxacum officinale* (60%) and *Inula helenium* (70%) have a strong hypoglycemic effect that is 2.5 and 1.5 times stronger than the comparison drug - tea "Arfazetin." As a result, research into medicinal plants as monodrugs and in combination with other drugs continues to be a promising area of study in medicine and pharmacy.

Conclusions. Inclusion of phytodrugs in the treatment of type 2 diabetes is thus one of the promising areas of glycemic control, and the study of new medicinal plants is a promising area of pharmaceutical industry development.

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RESULTS OF STATISTICAL ANALYSIS OF DATA OF PATIENTS WITH ALZHEIMER'S DISEASE

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Introduction. Taking into account the urgency of the process of reforming the national health care system in the direction of implementing rational models of resource provision for patients, including the psychoneurological direction, as well as taking into account the objective processes of population aging, people's desire to improve the quality of their lives, the extension of the period their ability to work, the issue of analyzing the state of pharmaceutical support for dementia patients with Alzheimer's disease (AD) is socially important.

The aim of the work. Determination of the actual state of providing pharmaceutical assistance to the population with the diagnosis of Alzheimer's disease.

Materials and methods. 200 medical records (MR) of patients with the diagnosis of AD (code F00* according to the International classification of diseases of the tenth revision), who underwent a course of treatment based on specialized health care facilities during 2020–2022, were chosen as the research material. General theoretical and applied research methods were used.

Results. The results of the statistical analysis of MR show that in the total population of patients with the diagnosis of AD, there were 96 males (48% of the total number of patients), and women - 104 (52%). By age, the patients were divided into the following groups: under 40 years (4 patients - 2% of the entire population of patients), 40-49 years (9 - 4.5%, respectively), 50-59 years (32 - 16%), 60-69 years old (43 - 21.5%), 70-79 years old (63 - 31.5%), 80-89 years old (43 - 21.5%), 90-99 years old (6 - 3%). The average age of patients is 69.3 years. The main number of patients with Alzheimer's disease (77.5%) were found to be persons of incapacitated age. It should be noted that the obtained data indicate a clear dependence of the incidence of AD in the population on age. In general, the majority of patients was found to belong to socially vulnerable population groups. Thus, the specific weight of pensioners was 71.0%, and 40 patients (20.0%) belonged to