

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



## **МАТЕРІАЛИ**

**105-ї підсумкової науково-практичної конференції  
з міжнародною участю  
професорсько-викладацького персоналу  
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ  
присвяченої 80-річчю БДМУ  
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Матеріали підсумкової 105-ї науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) – Чернівці: Медуніверситет, 2024. – 477 с. іл.

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У збірнику представлені матеріали 105-ї підсумкової науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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assess the use of drugs by consumers and the degree of supply of these drugs to the pharmaceutical market of Ukraine.

**Kostyshyn L.V.**

### **DIURETIC AND NEPROTECTIVE ACTIVITY HERB OF THE TAGETES LUCIDA**

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**Introduction.** Diseases of the urinary tract and kidneys are one of the current problems, because complications of these pathologies can lead to disability, and in the worst case, death. Therefore, the search and development of new effective and safe drugs with diuretic and nephroprotective properties is an urgent task of modern pharmacy and medicine. Such medicines, including those of plant origin, are used not only for diseases of the kidneys and urinary tract, but also for diseases of the cardiovascular, endocrine and other systems. One of such plants is *Tagetes lucida* - a type of *Tagetes* brought to Ukraine from Mexico and cultivated here. *Tagetes lucida* has analgesic, anti-inflammatory and hypotensive properties.

**The aim of the study.** To conduct a study of the chemical composition of the herb *Tagetes lucida* for diuretic and nephroprotective activity.

**Materials and methods.** The object for research was the herb of golden marigolds. The grass was harvested during the mass flowering phase of the plant on the territory of the National Botanical Garden named after M. M. Hryshka National Academy of Sciences of Ukraine. Determination of flavonoids and hydroxycinnamic acids was carried out by the method of high performance liquid chromatography (HPLC).

**Results.** Studying the chemical composition of the researched medicinal plant raw materials, they found a considerable amount of phenolic compounds - flavonoids, hydroxycinnamic acid. It is known from the literature that phenolic compounds exhibit diuretic and nephroprotective properties.

Therefore, we believe that the diuretic effect of the herb of *Tagetes lucida* is due to the significant content of flavonoids and hydroxycinnamic acids. The raw material contained the most isoquercitrin - 68.32 µg/g, quercetin - 787.05 µg/g, and kaempferol - 136.71 µg/g. Quercetin and kaempferol are known to exhibit antioxidant, anti-edematous, antihistamine and diuretic properties.

Among hydroxycinnamic acids, chlorogenic acid - 666.09 µg/g and quinic acid prevailed - 2604.21 µg/g. Chlorogenic acid exhibits anti-inflammatory, antioxidant, and antibacterial activity, regulates blood sugar, and henna is antiviral.

**Conclusions.** Therefore, a more detailed study of the chemical composition of the herb of *Tagetes lucida* will make it possible to research medicinal forms from this plant as diuretic and nephroprotective in traditional medicine and pharmacy in the future.

**Matushchak M.R.**

### **ANALYSIS OF THE DYNAMICS OF STATE PURCHASES OF DOXORUBICIN DRUGS IN UKRAINE**

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**Introduction.** In most of the developed countries of the world, the issue of financial protection of cancer patients is not the responsibility of the state or public funds and organizations. Ukraine is not excluded from this list of countries.

**The aim of the work.** To conduct an analysis of the dynamics of state purchases of doxorubicin (DR) drugs used in lymphogranulomatosis chemotherapy schemes in Ukraine during 2017-2021.

**Research materials and methods.** The PPP procurement database (cost and physical indicators of measurement), which is presented on the PROZORRO information platform for 2017-2021, was used. General theoretical research methods as well as mathematical and statistical methods of analysis were used.

**Results and their discussion.** It was established that during the specified period, the unstable nature of the purchase amounts of DR drugs was observed, both in terms of value and in kind. Thus, in 2017, the state purchased DR drugs at the expense of the central budget in the amount of 15,176.05 UAH, and in the following year, 2018 – only 5,909.25 UAH. In natural indicators (conditional packages), in 2017, 27,145 packages of DR drugs were purchased, and in 2018 – 20,200 packages. Thus, the conditional cost of one package of DR in 2017 was 559.07 UAH, and in 2018 – 292.54 UAH. The decrease in the cost of one package of DR drugs by almost two times according to the data of 2018 should be evaluated as an important positive characteristic of the process that we studied in the dynamics of the years. In 2019 we observed a significant decrease in procurement data to 1,478.20 UAH or 2,388 conditional packages. The positive thing is that since 2020, the amount of DR drugs purchases has steadily increased. Thus, in 2020 drugs were purchased in the amount of 3,418.27 UAH, and in 2021 – 8,909.44 UAH. It is worth noting the fact that due to the increase in purchase amounts, the number of conditional packages that were purchased during 2020-21 significantly decreased. For example, in 2020 the state purchased 504 conditional packages of DR drugs, and in 2021 - 752 packages DR.

**Conclusions.** The analysis of state purchases of DR drugs demonstrated the unstable nature of their changes, which requires separate consideration in the context of the organization of effective pharmaceutical support for cancer patients under the conditions of a decrease in the purchasing power of the majority of the population in Ukraine.

**Melnychuk S.P.**

## **THE INFLUENCE OF CHRONIC HYPOBARIC HYPOXIA ON THE ACID-REGULATORY FUNCTION OF KIDNEYS OF RATS**

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**Introduction.** Kidney diseases remain a serious and urgent problem of the health care system, because there is not only a significant increase in the frequency of acute kidney pathology, but also chronic kidney diseases, in the pathogenesis of which hypoxia plays an important role. Oxygen homeostasis is an important mechanism in the vital activity of eukaryotes, its changes are the trigger for many pathological processes of various genesis. However, as a result of the action of the lack of oxygen factor to organisms already at the early stages of evolution, the mechanisms of adaptation to it are well developed and allow the organism not only to survive in conditions of acute and chronic lack of oxygen, but also increase its resistance to other types of stress, therefore it is important to study the mechanisms of damaging effects of hypoxia at all levels of the body, as well as mechanisms of adaptation to lack of oxygen. At the same time, the functional state of the kidneys under the influence of chronic hypoxia in the dynamics of its development remains practically unclear.

**The aim of the study.** Study of the influence of chronic hypobaric hypoxia in the dynamics of its development on the state of the acid-regulatory function of the kidneys of rats.

**Material and methods.** Experiments were conducted on white laboratory nonlinear male rats of reproductive age weighing 120-180 g. Hypobaric hypoxia was simulated in a modified flow-through pressure chamber imitating the ascent of rats to an altitude of 4000 m above sea level at a speed of 24 km/h. The animals were kept in the chamber for 2 hours daily from 1 to 4 weeks. The acid-regulatory function of rat kidneys was characterized by the excretion of titrated acids, ammonia, hydrogen ions and the pH indicator.

**Results.** Violation of the acid-regulatory function of the kidneys can occur due to changes in various mechanisms of regulation and, mainly, disorders of this function of the kidneys occur as a result of changes in the secretion of ions in the proximal tubules or the release of titrated acids and ammonia. During hypoxic stress, in the dynamics of its development (from the first to the fourth week), pronounced changes in the acid-regulatory function of the kidneys of rats were detected. According to the obtained data, the excretion of ammonia and titrated acids significantly decreased against the background of a decrease in the rate of glomerular filtration and diuresis with the