

and antioxidant activity of those extracts (Kozics et al., 2013). Moreover, the results of Horváthová and co-workers (2016) have indicated that the consumption of *S. officinalis* and *Th. vulgaris* extracts positively affect the resistance of rat liver cells against oxidative stress and may have hepatoprotective potential. Intake of sage and thyme did not affect either the basal level of DNA damage or the activity of superoxide dismutase in rat hepatocytes and did not change the biochemical parameters of blood plasma. Simultaneously, the activity of glutathione peroxidase was significantly increased and the level of DNA damage induced by oxidants was decreased. Moreover, the sage extract was able to start up the antioxidant protection expressed by an increased content of glutathione (Horváthová et al., 2016).

Conclusions. The extracts obtained from leaves of *Th. alpestris*, *Th. pannonicus*, and *Th. x porcii* in both doses (0.5 mg/mL) has a mild cytotoxic activity on the human erythrocytes increasing the level of lipid peroxidation biomarker (TBARS level). *Th. alpestris*, *Th. pannonicus*, *Th. x porcii* caused also increased the TBARS level (by 58%, 51%, 43.1%, $p < 0.05$, respectively) compared to untreated erythrocytes. On the other hand, *Th. serphyllum* and *Th. pulegioides* extracts decreased the TBARS level (by 16.5% and 2.7%, respectively), but these changes were no significant. Moreover, *Th. serphyllum* extract caused the increase of TBARS level. Further research is needed to determine the effects of the active compounds of various plants belonging to the *Thymus* genus on erythrocytes' metabolism.

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THE ROLE OF ZINC IN IMPROVING IMMUNITY AND FIGHTING COVID-19

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Introduction. Zinc is a trace element that affects the state of the immune system (is an activator of T-lymphocytes). Nowadays, when there is a Covid-19 pandemic in the world, the immune system is very vulnerable, so doctors prescribe a large number of vitamins for any disease, especially vitamin C, vitamin D and zinc.

Aim. Show how much zinc is an important element in the human body, namely for immunity and determine its benefits in the fight against Covid-19.

Materials and methods. Review of scientific literature.

Results and discussion. The daily requirement of Zinc is 10-15 mg. Zinc compounds enter the human body with both plant and animal foods. The biological role of zinc is associated with the activity of endocrine glands. As a component of some enzymes, zinc affects the processes of reproduction, fat and carbon metabolism. In case of insufficiency of Zinc in the body causes such serious diseases as cirrhosis of the liver, skin and eye lesions. It is a part of LP due to drying, antimicrobial, antiseptic, anti-inflammatory, prolonging and anti-cariou properties. Zinc compounds have antibacterial, antiviral and antitumor effects.

Zinc affects the activity of tropic hormones of the pituitary gland, participates in the biological actions of insulin, normalizing fat metabolism. Zinc is involved in hematopoiesis and is necessary for the normal functioning of the pituitary gland, pancreas, and seminal vesicles. Zinc is also needed for functioning or regulation of more than 300 enzymes, participates in the biosynthesis of nucleic acids, amino acids, proteins, specific hormones (such as insulin, corticosteroids,

testosterone), participates in the formation of a full and adequate immune response, ensures normal brain function, improves memory, mental performance, ensures normal growth and development, prevents oxidative cell damage. It has pronounced antioxidant properties, is involved in the metabolism of fatty acids, vitamin A. It is involved in maintaining the health of bones, skin, hair and nails.

With a lack of zinc in the body are the following processes: impaired growth, including in utero (reduced linear growth and body weight), disorders of the immune system (with a lack of zinc is an increased susceptibility to pneumonia, diarrhea, etc.), pregnancy complications zinc deficiency, premature birth, fetal malformations), macular degeneration (with age, the amount of zinc in the retina decreases, which is also a prerequisite for deterioration of central vision), zinc deficiency enhances tumor growth and can lead to infertility, anemia and skin diseases.

This element is contained in the following products: animal origin (oysters, shrimp, herring, mackerel, beef liver, poultry, milk, cheese, eggs), vegetable (pumpkin seeds, sunflower, legumes, mushrooms, oatmeal and buckwheat, walnut walnuts, garlic, cauliflower and cabbage, asparagus, potatoes, beets, carrots) and in fruits (apples, pears, plums and cherries). Zinc can also be taken through drugs, and in the pharmacy it can be purchased as a dietary supplementing (Zinc K & Health (15mg zinc) tablets №60; Zinc Active tablets №100; Zinc Pharmacom tablets 0.25g №80; Zinc tablets 15 mg №30).

Conclusions. The most important thing for us now is to strengthen our immune system. In the fight against Covid-19 you need to have strong immunity. Doctors and scientists are still researching vitamins and minerals to boost immunity, but we can already see that the combination of the two keywords "Covid" and "zinc" alone has about a hundred publications. Clinical studies are still ongoing, but it has been proven that zinc is an effective immune booster and can help fight Covid-19.

DETERMINATION OF EARLY HEALING FEATURES OF THE OINTMENT WITH LIPOPHILIC EXTRACT OF CHINESE POPLAR BARK ON THE PEO BASIS ON THE MODEL OF PLANAR SKIN WOUNDS OF RATS

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Introduction. Wound healing and wound infection is the oldest medical problem, which remains unresolved to this day. Purulent-necrotic soft tissue diseases are one of the leading surgical diseases. Patients with purulent-inflammatory diseases are 35-45%, and postoperative purulent complications occur in 24-30% of cases. The armed conflict in eastern Ukraine, which began in 2014 and later escalated into a form of hybrid warfare, has led to the actualization of combat surgical trauma for both the military and the national health care system.

Important for the impact on the leading links in the pathogenesis of the wound process are drugs for topical use – antiseptics and antibacterial agents, enzyme preparations, sorbents, agents that promote repair and epithelialization. The results of many scientific studies confirm the reduction of side effects of antiseptic drugs while maintaining therapeutic efficacy in the composition of mild drugs – ointments, creams, gels.

While treating the wounds of various etiologies when the reparative regeneration is slowed down for some reason, it is necessary to prescribe medications that accelerate this process. The