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CURRENT STATUS OF PHARMACEUTICALS DEVELOPED ON THE BASIS OF PRICKLY ARTICHOKE IN THE PHARMACEUTICAL MARKET

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*Information on the widely used drugs in medicine for the treatment of certain types of diseases based on the artichoke (*Cynara scolymus*) was collected and analyzed. Medicinal products developed on the basis of Prickly artichoke and demanded in the pharmaceutical market were studied. The findings demonstrated the high demand for artichoke-based medicinal products and confirmed the relevance of producing these preparations locally from domestic raw materials in various dosage forms.*

Keywords: *prickly artichoke, pharmaceutical market, biologically active substances, environmental factors.*

RELEVANCE

It is well known that at present the deterioration of environmental conditions, improper nutrition, and stress adversely affect the general state of the body and weaken the human immune system, which in turn leads to the development of many diseases. In today's pharmaceutical market, special attention is being paid to scientific research aimed at identifying new sources of biologically active compounds, expanding the scope of already known sources, controlling their quality, and standardizing them in order to develop pharmacologically effective medicinal products based on medicinal plants and natural raw materials for the treatment of various diseases. Prickly

artichoke has long been widely used in folk medicine for the treatment of various ailments, and today this plant is used in the management of liver diseases, in cosmetic preparations for various skin disorders, in dental products, in the treatment of oncological diseases, and for cleansing the blood from toxins [1-5].

In dentistry, artichoke is used as a supportive remedy because of its anti-inflammatory and regenerative properties. Artichoke juice mixed with honey is often used as a mouth rinse for the treatment of stomatitis and inflammation of the gums.

In cosmetology, artichoke extract is considered a powerful lymphatic drainage and antioxidant agent used to reduce swelling, combat cellulite, tighten the



skin (anti-aging effect), and strengthen blood vessels. It improves facial and body contour, promotes detoxification, improves skin elasticity, and helps in the treatment of acne [6-10].

In addition, these preparations exert a positive effect on lipid metabolism, resulting in a decrease in blood cholesterol levels. They also demonstrate diuretic properties and reduce the level of urea in the blood. Vitamin C, carotenoids, and other vitamins contained in Prickly artichoke extracts, including B-group vitamins, nicotinic acid, and vitamin E, as well as the carbohydrate inulin, actively participate in metabolic processes and prevent the accumulation of excess fat in the body, which in turn may contribute positively to the prevention of excessive weight gain[11,12].

Aim of the study. To analyze information on the current status of preparations obtained from Prickly artichoke.

Objects and methods of the study. The research objects were preparations

obtained from Prickly artichoke and widely used in medical practice. The study was carried out through analysis of data collected from scientific literature.

The Prickly artichoke plant has been used in folk medicine for many centuries in the treatment of various diseases. At present, interest in this plant continues to grow among scientists in many countries of the world. In the Republic of Uzbekistan, local medicinal products based on Prickly artichoke for the treatment of liver diseases have already been developed; however, unfortunately, their production has still not been organized at a conveyor-scale industrial level by pharmaceutical manufacturers. All of these preparations are imported from foreign countries using foreign currency. Based on the analysis of scientific literature and the data collected, the preparations obtained from Prickly artichoke and relatively widely used in medicine are presented in Table 1.



Table 1

Preparations Obtained on the Basis of Prickly Artichoke

N ^o	Trade name of the preparation	Dosage form	Composition	Manufacturer
1	<u>Artihol</u>	400 mg tablets	400 mg dry extract of <u>Prickly artichoke</u> ; extractant: 70% ethanol; excipients: magnesium oxide, silicon dioxide, talc, magnesium stearate, and corn starch in required amounts	"Kyiv Vitamin Plant", Ukraine
2	<u>Artichoke Extract</u>	590 mg tablets	Contains 500 mg dry extract of <u>Prickly artichoke</u> leaves; excipients: magnesium stearate, silicon dioxide, talc	"Evalar", Russia
3	<u>Cholesenol-Artichoke</u>	0.41 g capsules	Contains 200 mg dry extract of <u>Prickly artichoke</u>	"GNTs PM Pharma JSC", Russia
4	<u>Solgar – artichoke leaf extract</u>	505 mg capsules	Contains 300 mg dry extract of <u>Prickly artichoke</u> leaves; excipients: microcrystalline cellulose (MCC), silicon dioxide, magnesium stearate in required amounts	"Solgar Vitamin and Herb", USA
5	<u>Artichoke Premium Vita Life</u>	300 mg capsules	Contains dry extract of <u>Prickly artichoke</u> (chlorogenic acid content not less than 5%)	"VitaLife LLC", Russia
6	<u>Artichoke</u>	200 mg capsules	Contains 200 mg <u>Prickly artichoke</u> leaf powder	"Lab Alain Bicher", France
7	Complex extract of artichoke, milk thistle, and dandelion	300 mg capsules	Contains dry extract of <u>Prickly artichoke</u> (chlorogenic acid content in the extract not less than 30 mg)	"Vneshtorg Pharma", Russia
8	<u>Artichoke Extract Zdorovye</u>	300 mg capsules	Contains 300 mg dry extract of <u>Prickly artichoke</u> and excipients in required amounts	"FC Zdorovye", Ukraine
9	<u>Holiver</u>	100 mg tablets	Contains 25 mg dry extract of <u>Prickly artichoke</u> , 50 mg long turmeric extract, and 25 mg ox bile	"Hau Zieng", Vietnam
10	<u>Hofitol</u>	200 mg tablets	200 mg dry extract of <u>Prickly artichoke</u> (water as extractant)	"Laboratoire Rosa Phytopharma", France
		120 ml oral solution	1 ml of solution contains 200 mg thick extract of <u>Prickly artichoke</u> ; preservative: 20% ethanol; purified water in required amount	
		Ampoules of 1 ml and 5 ml for injection	1 ml of solution contains 20 mg purified extract prepared from fresh <u>Prickly artichoke</u> leaves and water for injection in required amount	
11	<u>Cynarix</u>	400 mg tablets	Contains 55 mg dry extract of <u>Prickly artichoke</u> and 45 mg excipients (cellulose, magnesium stearate, silicon dioxide, copovidone)	"Pharmazeutische Fabrik Montavit Ges.m.b.H.", Austria

Results and discussion. Information on the pharmacological activity of preparations based on Prickly artichoke was collected and interpreted. Data on artichoke preparations currently popular in the pharmaceutical market were gathered, analyzed, and systematized. Information on the pharmacological properties and medical applications of preparations obtained from Prickly

artichoke was also collected and analyzed.

Conclusions. It was established that Prickly artichoke and preparations derived from it are used in both folk and scientific medicine mainly as choleric, hepatoprotective, diuretic, digestive-improving, and antioxidant agents. According to our analysis, 11 types of preparations based on Prickly artichoke are currently widespread in the global



pharmaceutical market, with the largest share accounted for by Russia, Ukraine, and France. Taking into account the cultivation of this medicinal plant in our republic, it is highly relevant to develop

technologies for local medicinal products based on it, as well as methods for their standardization and implementation into medical practice.

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