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Article

Medicinal Properties and Chemical Composition Hypericum Perforatum L.

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Abstract: Today, the interest in natural medicines in the world has increased significantly. In Germany, for example, 80% of physicians of all specialties use plants regularly in their practice, and more than 80% of patients in all countries of the world have been treated with phytopreparations at least once. Therefore, it is very important to take an inventory of common medicinal plants, to register their stocks, and to look for ways to use them in a sustainable way.

Keywords: Hyperrexin, pseudohyperecin, protopsevic hypericin, quercetin, rutin, quercetin, essential oils, flavonoids, enhancers, organic acids, ascorbic acid, heparoside

Introduction

Relevan of the Topic.

While assessing the importance of tens of thousands of synthetic drugs created through chemical advances, one must not forget the negative consequences of chemical dependence. Therefore, despite significant advances in chemistry in the artificial synthesis of organic medicinal substances, herbal medicine continues to play a vital role in the

treatment and prevention of many diseases. Natural remedies made from medicinal plants offer advantages over synthetic drugs. The potential of herbal medicine is enormous: almost every plant possesses various medicinal properties. In cases where treatment without synthetic drugs is impossible, the use of herbal medicine in combination with chemotherapeutic agents helps alleviate the course of the disease and prevent complications.

About 4,500 species of higher plants grow naturally in Uzbekistan, of which approximately 1,200 have medicinal properties. Currently, the official medicine of our Republic permits the use of 112 species of medicinal plants, 80% of which are plants growing in natural conditions.

Materials and methods.

The article used morphological, phenological, phytochemical and statistical methods.

Results and their analysis.

One of the plants widely used in folk medicine and scientific medicine is the thorny thorn - H. perforatum. Most often, the leafy and flowering shoots of the upper part of H. perforatum are used as medicinal raw materials. It is best to prepare the raw materials from the upper part of the plant, 25-30 cm, during flowering and before the fruit ripens. One of the characteristic features of H. perforatum is the presence of essential oils in its composition of 0.01-1.75%. The essential oil contains about 148 substances, which are as follows: the largest amount is sesquiterpene hydrocarbons (69%) and 60% monoterpenes. The thorny thorn in alcohol solution contains 2.3 mg/ml of rutin, and in oil solution 9 substances were detected, the most important of which are chlorogenic acid, biapigenin and hypericin. In recent years, new biologically active substances have been discovered in the phytochemical composition of H. perforatum [2,4,5,6].

The above-ground part of H. perforatum contains 0.1-0.4% hypericin, pseudohypericin, protopseudohypericin and similar substances; up to 2-5% quercetin, up to 0.5-0.7% rutin, up to 0.4-0.5% quercitrin, and up to 0.01-1.25% essential oil. In addition, H. perforatum contains 0.31% alkaloids, choline, vitamins C, P and PP, coumarins, tannins (2.8-12.4%), anthocyanins (5-7%), 17% resinous substances, nicotinic acid, carotene and up to 1% organic acids. The active ingredients in H. perforatum are attracting the attention of scientists. Because these substances increase physiological alertness and activity in humans, and have almost no side effects. H. perforatum is rich in biologically active substances, and it also contains minerals necessary for the body, such as sodium, calcium, potassium, manganese, iron, zinc, copper, lead, mercury, and so on. It is necessary to take into account the antiviral properties of hypericin. Since this substance has biological activity, it is used in the fight against cytomegalovirus, human papillomaviruses, influenza, hepatitis B, AIDS, and similar diseases [1,3,].

Hyperforin contained in H. perforatum has antimicrobial properties and has bactericidal activity, which is why it gives effective results in the fight against Staphylococcus aureus, almost 88% of hypericin and 51% of flavonoids are found in the inflorescences. This means that it is much more than in other organs of H. perforatum. H. perforatum has strong adaptogenic properties. That is, it invigorates the body, increases immunity, just like ginseng. As a result of the action of H. perforatum, the physical and mental vitality of organisms increases. It becomes resistant to infectious diseases. It is used to treat severe colds. It has been proven that it can be used as a diuretic and against parasitic worms.

Currently, the perforatum is widely used in pharmacology in Russia, the Czech Republic, Poland, France, Bulgaria and other countries. For example, in Bulgaria, the drug Categin is used in gynecology, “Peflavit” is used to treat atherosclerosis and similar diseases, and in Italy, it is used to treat gallstones. In Russia, the drug “Novaimanin” is used to treat infectious wounds, burns, gingivitis, and aerosols prepared from it are used to treat pneumonia, tuberculosis, and upper respiratory tract diseases [9,8,7,6,].

The drug “Giflarin” obtained from H. perforatum is used against acute and chronic nephritis and nephrosis. “Fitolitum” obtained from H. perforatum has the property of dissolving stones in the urinary tract.

In foreign countries, the herb is used as a raw material for the production of antidepressants such as "Deprim" and "Negrustin". H. perforatum preparations have a positive effect on the functioning of the cardiovascular system, that is, they improve venous circulation. They increase the amplitude of heart contractions.

They relieve spasms of blood vessels, improve the functioning of capillary blood vessels.

It has been determined that H. perforatum growing in Uzbekistan contains 10-12% of tannins, 0.1-0.4% of anthroposene products, flavonoids, essential oils and vitamin C. Abu Ali Ibn Sino used the plant H. perforatum as a painkiller, diuretic and for the treatment of various wounds. In folk medicine, a decoction made from the herb is used to treat kidney, bladder, and gastrointestinal (diarrhea) diseases.

H. perforatum can be used to treat dysentery, gastrointestinal pain, inflammation of the stomach, liver, lung, and heart diseases [10,11].

Conclusion.

Therefore, the fact that the range of H. perforatum is currently decreasing and it is included in the list of promising medicinal plants in the pharmaceutical industry proves that the study of seed productivity, chemical composition and yield of the above-ground and underground parts of this plant, as well as the development of preliminary agrotechnical methods, is of urgent scientific and practical importance.

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