

RESEARCH ABOUT DEVELOPMENT OF MEDICINAL DRUGS FROM WHITE WILLOW BARK

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Introduction. The use of plants as drugs has come from ancient times and is still playing a significant role in the arsenal of medicines in modern medicine. This is due to some of the benefits of phytotherapy compared with synthetic drugs. Uncommon side effects can be explained by the fact that «Herbal medicine is a valuable biogenetic complex, which includes active substances-proteins, essential oils, trace elements, vitamins and more.»

It is believed that such a complex was formed in a living cell, therefore, it has a greater resemblance to the human body than an isolated, chemically pure active substance, therefore it is easier to assimilate and gives less side effects. Herbal remedies play big sense in the prevention of diseases. The object of our study was the willow white (*Salix alba*). Still Hippocrates, Celsius, Galen recommended to use the broths of willow in fever and to reduce the severity of pain. Biologically active substances in the complex have hemostatic, antiseptic, diuretic action.

Aim. The purpose of our work was to analyze literary sources about medicinal plant raw materials of willow white in order to create new drugs on that basis.

Materials and methods. Drugs of white willow bark are presented in the form of crushed powder (extract), tablets, capsules, tea. In the form of capsules and pills is an extract that is obtained by vacuum extraction. Nowadays, in the pharmaceutical market of different countries there are preparations with willow white bark.

Results and discussion. Willow extract is effective in reducing pain and inflammation. The main active ingredient is salicin (0.5%) – a compound similar in quality to aspirin. White willow bark contains a large number of biologically active substances: glucose responsible for stress relief, metabolic processes, brain nutrition, flavonoids (about 2% catechins, flavones, flavonols, flavanones) produce antioxidant and anti-inflammatory effects, glycosides (3%) decrease the level of cholesterol affects the immune processes, tannins (about 12%) have anesthetic, anti-inflammatory effect, tannin (11% -12%) produces astringent effect, so the bark helps with diseases of the gastrointestinal tract.

Conclusions. Consequently, as a result of the research, it can be concluded that bark of white willow is a promising raw material for the development of new drugs for internal and external use.

COMPOSITION DEVELOPMENT OF THE GEL FOR THE TREATMENT OF PREVENTION AND HEALING SCARS

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Introduction. Scar is a secondary morphological element in dermatology, which occurs after injuries, burns, inflammations, operations, in places of skin damage at the level of the dermis (especially the papillary layer of the dermis).

The scar is a coarse-fibrous connective tissue (collagen fibers). Within the scar tissue there are no hair, sweat, sebaceous glands. The initial stage of the fresh scar is a red, shiny and smooth scar, then pigmented, and finally white. Most often, scars occur after the healing of ulcers, deep pustules, cracks, cuts and so on.

Aim. The purpose of the research was the selection of the composition of the gel for effective treatment and healing of scars, based on herbal ingredients.

Materials and methods. The following components were used for composition development of the gel: Allantoin, Sodium hyaluronate, Vitamin E, D-panthenol and horsetail extract.

Results and discussion. Allantoin softens the stratum corneum, promotes the separation of dead cells, and stimulates tissue regeneration. Sodium hyaluronate on the skin forms a polymer network, which allows other biologically active substances to linger longer on the skin and penetrate deeper into the layer of the epidermis. Sodium hyaluronate has wound healing and antibacterial properties. Vitamin E is a strong antioxidant. D-panthenol is a substance with excellent moisturizing and regenerating effects. Due to the powerful activity of D-panthenol has the ability to penetrate deep into the epithelium and provides its full recovery at the cell level.

Horsetail extract is an anti-inflammatory, wound-healing, hemostatic agent. He also has a disinfecting, astringent action. The extract cleanses and nourishes the skin, restores normal physiological balance, contains trace elements and macronutrients, therefore it nourishes the skin well and makes it elastic.

The study on the voluntary basis was attended by NUPh students with skin lesions at the level of the dermis. Each of them had peculiar skin damage properties. The health condition of each of the students was satisfactory. Students used this gel for three months a day, 85% of the students improved their skin condition, traces of mechanical damage gradually began to disappear.

Conclusions. The preliminary composition of the gel proved to be a promising drug. Our further research will be the development and justification of the composition and technology of the gel.

DEVELOPMENT OF THE ANTI-INFLAMMATORY CREM FOR THE TREATMENT OF CHEILITIS

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Introduction. Cheilitis is inflammatory disease of lips and their mucous membranes. It's the disease which not give a person to feel well like any problem with appearance and make serious inconveniences.

There are a lot of kinds of cheilitis such as meteorology, actinic, hypo- and avitaminosis ones and etc. Usually for their treatment they used lipsticks, various lip balms, nutritious creams with different oils and etc. Creation of medicine for treatment and prevention of various cheilitis for people who working in an aggressive environment is a real challenge for farmaceutical science. It should be noted that there are some types of cheilitis, such as herpetic or allergic, require drugs that directly affect the etiological factors. Complicated types of heilitis: granulary, exfoliative, a number of symptomatic cheilitis require complex treatment.

In this case the most successful and effective form of treatment is the cream because it does not impair the condition of mucous membranes of the affected organ, improves the functional state and metabolic processes, and at the same time provides the opportunities to introduce into the medication various components.

For this purpose as a biologically active substance we used natural extracts, in particular, the lipophilic complex of bee pollen.

The study of the chemical composition of the lipophilic extract of bee pollen has proven the presence of biologically active substances in it, for example polyunsaturated fatty acids, carotenoids, tocopherols and other compouds. Pharmacological studies have shown that the bee pollen lipophilic complex has a high reparative and anti-inflammatory activity, stimulates metabolic process in the skin, doesn't have allergenic, local and general toxic effects.

As a base for the cream was chosen the oil/water emulsion system, because the bases of this type return the skin lost moisture, easy to apply on its surface, quickly absorb, contain a small amount of fats and fatty substances, which corresponds to the physiological needs of the skin.

The aim of our work was to develop the composition and technology of the cream with a lipophilic complex of bee pollen, intended to treat cheilitis.

Material and methods. Emulsions were prepared by inversion of phases. Colloidal stability was evaluated after centrifugation, thermostability was determined in the absence of stratification of the cream