GROUNDS FOR SELECTION OF BASES FOR PREPARING GEL WITH PHYTOS COMPLEX FOR TREATMENT OF SKIN DISEASES

Mirgorod V.S. Bashura O.G., Bobro S. G.
Scientific supervisor: prof. Bashura O.G.
National University of Pharmacy, Kharkiv, Ukraine
svetabobro1@gmail.com

Introduction. A modern approach to the development of gel composition and its technology must necessarily involve thorough and comprehensive study of all biopharmaceutical aspects of the receipt and administration of gels.

The aim of the study. In order to achieve the desired therapeutic effect, it is necessary to consider not only the physical and chemical properties of the drugs, the nature of the disease, the state of the skin, but also the properties of the auxiliary substances, in particular, the properties of the base. The basis for MLP should be chosen taking into account the purpose of the drug, its effectiveness and harmlessness, the bioavailability of the drug, the compatibility of medicinal and auxiliary substances, rheological properties, physico-chemical, chemical and microbiological stability, as well as the shelf life.

Research methods. For solving the problems posed in the work, common pharmacopoeial research methods were used.

Main results. The basics for drugs intended for local treatment of wounds in stage I of acne should meet the following medical and biological requirements: to be chemically stable and compatible with the medicinal substances introduced into it; to provide physicochemical stability of the medicinal product during the storage period; Be hydrophilic, water soluble and have a long (up to 24 hours) and expressed (to absorb 300-400% water) osmotic effect. The substrate should not have locally irritating, allergic activity, but, despite the high osmotic properties, it should not "overdry" healthy tissues, suppress the growth of granulation. Also, the foundation should promote the prescribed rate of release of medicinal substances with a constant rate, have a certain "affinity" to the tissues of the wound, to wet it well and contribute to the complete filling of the wound with the drug, including wounded canals and cavities.

Conclusions. Taking into account all of the above factors, we have used a composition consisting of polyethylene oxide (PEO-400) and propylene glycol in the ratio of 1: 1, respectively, when developing the composition and technology of gel with phytocomplex for use in the treatment of skin diseases. The choice of the base is due to its physico-chemical and dehydrating properties, as well as the solubility in it of active substances that are part of the gel. To select the optimal concentration of extracts in the gel, an antimicrobial activity of the gel with different concentrations should be investigated. The purpose of our research was also to study the effects of various concentrations of extracts on the rheological properties of the basis.

DEVELOPMENT RELEVANCE OF EFFERVESCENT TABLETS ON THE BASIS OF CITRATE MIXTURE AND LIQUID COWBERRY EXTRACT FOR THE TREATMENT OF UROLITHIASIS

Salatskaya O. N.
Scientific supervisor: associate professor Slipchenko H. D.
National University of Pharmacy, Kharkiv, Ukraine
Salatskaya125@gmail.com

Introduction. Urolithiasis or nephrourolithiasis is a chronic disease caused by various endogenous and (or) exogenous factors, characterized by impaired metabolic processes in the body, changes in the kidneys and urinary tract with the formation of urinary calculi in them. This disease is accompanied by symptoms such as attacks of renal colic, hematuria, dysuria, pollakiuria. According to world data, the prevalence of nephrolourithiasis varies from 1 to 20%. In countries with a high standard of living, such as Sweden, Canada or the United States, the incidence of urolithiasis exceeds 10%.

Aim of the study. The aim of our work is to develop the composition and technology of the drug for the treatment of urolithiasis, which is a combination of vegetable and synthetic components.

Magnesium citrate, citric acid and sodium bicarbonate, which are part of the preparation, are a citrate mixture and have a complex effect on the physico-chemical state of urine, causing an increase in the solubility of urates, calcinates, and especially oxalates and other salts, contributing to the inhibition of stone formation and dissolution of already formed concretions. The extract from the leaves of cowberry contains arbutin, which possesses antimicrobial and diuretic effects. The form of effervescent tablets is convenient to use, has a high bioavailability, reduces the irritant effect of tablets on the stomach.

Methods of the study. The following physical, chemical, pharmaco-technological methods, methods of logical, graphical and direct observation were used in the work at solving the set tasks:

- determination of bulk density, flowability, the angle of repose, compressibility of powders and the force of tablets pushing out to evaluate the technological properties of powders and granules;
- determination of disintegration, average weight and homogeneity of the weight of tablets.

Results. Separate granulation was used to prepare effervescent tablets. Moisturizers such as PVP solution from 5 to 15%, HPMC solution 5-10% and methylcellulose solution 1-2% were used to prepare granules. As a result of the research, 10% solution of PVP was chosen as a humidifier. Liquid cowberry extract was transferred to the dry state using a 244FP grade siloid, the amount of which was selected experimentally. Dextrates and sorbitol were used as formers. As lubricant sodium stearyl fumarate was used.

Conclusions. The obtained effervescent tablets in quality indicators meet all the criteria, shown to the dosage form by SPU.

DEVELOPMENT OF COMPOSITION AND TECHNOLOGIES OF DERMATOLOGICAL CREAM WITH JOJOBA OIL AND D-PANTENOL

Samodurova A. V.
Scientific supervisor: assoc. prof. Rybachuk V. D.
National University of Pharmacy, Kharkiv, Ukraine
homutovaangelika@gmail.com

Introduction. Every person, doesn't matter a women or a men, faces such problems as dry and dehydrated skin. There are many reasons and factors which cause dryness of skin: environmental impact, wrong care of skin, fatigue and stress. Dry face skin can be presenilation factor. Skin acts as an organism barrier, it means that it is exposed to both external, and internal influences. External factors cause dysfunction of skin as natural barrier that leads to increase in losses of moisture through skin. Therefore the relevance in creation of cream with the moisturizing and restoring ingredients is not exposed to doubts.

Aim. Analyze the causes of the withering skin, examine the influence of natural oils and vitamins on health of skin; to determine which components should be included in the moisturizing and restoring cream.

Materials and methods. As well as any other body, skin demands a number of important nutrients for normal functioning. Among them — unsaturated fatty acids, oils and vitamins. The lack of any of them can contribute to the development of dry skin.

Results and discussions. One of the most useful oils is jojoba oil. Jojoba oil has good similarity to skin lipids, possesses the softening and moistening action, protects epidermis, slows down processes of destruction and a senilism warns.

The medicinal properties of jojoba oil connected with high concentration of amino acids – 33%, on structure remind collagen and promote healing of skin and increase in its elasticity. Also in structure there is a vitamin E which renders antioxidant properties and promotes increase in elasticity.

Perfectly holds moisture on the surface of skin therefore this oil is used in the moistening and nutritious formulas.

Provitamin B5 – Pantenol – water-soluble stable low-molecular cosmeceutical medicine. The optical D-isomer of the patenol is called D-pantenol. It is known as effective remedy, which stimulates regeneration processes, saves from dryness and helps to remove puffiness.

The moistening effect of a pantenol is caused by its hygroscopicity, well humidifies a horn layer, and in combination with glycerin its action amplifies. Besides, medicine reduces dryness, roughness and peeling.