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ФАРМАЦЕВТИЧНА ОСВІТА, НАУКА ТА ПРАКТИКА: СТАН, ПРОБЛЕМИ, ПЕРСПЕКТИВИ РОЗВИТКУ

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НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ
ІМЕНІ О. О. БОГОМОЛЬЦЯ
ФАРМАЦЕВТИЧНИЙ ФАКУЛЬТЕТ

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Матеріали
науково-практичної конференції з міжнародною участю, присвяченої 25-річчю фармацевтичного факультету Національного медичного університету імені О. О. Богомольця

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Considering the important role of prevention of facial skin aging, the use of natural components and organic components is becoming more and more relevant and requires a fairly quick solution. In this regard, the scientific and practical substantiation and development of a rational composition and technology of a new cosmetic anti-aging cream based on products of natural origin – actinidia extract, rose hip and lemongrass extract – is relevant.

Thus, the development of the composition and technology of a new soft medicine in the form of a cream for the prevention of age-related changes in the skin of the face is an urgent task of modern pharmacy and medicine.

Research methods. To achieve the set goals, the work used pharmaco-technological research methods according to the State Pharmacopoeia of Ukraine.

Results. In order to substantiate the quantitative content of auxiliary substances in the development of the gel composition, we applied mathematical planning of the experiment. For this purpose, 4 independent factors (polyethylene glycol, glycerin, PEO-400, PEO-1500) and their variation intervals were selected.

At the next stage of the experiment, our goal was to localize the region of factor values in the form of a graph of the response surface.

The figure clearly shows the minimum and maximum of the response, and it is possible to roughly estimate the relative proportions of the components of auxiliary substances at which the maximum liquid absorption rate is achieved. The values of these indicators are close to 5% for PG (factor A), PEO-400 (factor B) and glycerol (factor C).

Conclusions. Thus, on the basis of the conducted experimental and mathematical studies, the qualitative and quantitative composition of auxiliary components of soft cosmetic form was established.

FEATURES OF COMPRESSED LOZENGES TECHNOLOGY

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Introduction. Lozenges emerged as a prominent solid dosage form in the early twentieth century and continue to enjoy popularity. Their distinctive feature lies in the consumer's direct control over the absorption rate, as the patient manages the dissolution of the dosage form in the oral cavity. According to the State Pharmacopoeia of Ukraine, lozenges are defined as solid medications comprising one or more active pharmaceutical ingredients in a sweet base, administered through resorption in the oral cavity.

The purpose of the study. To analyze scientific publications and systematize data on the composition and features of the technology for the production of compressed lozenges as a solid dosage form.

Research methods. Analysis and systematization of data.

Results. In comparison to other oromucosal medicines, lozenges offer a unique advantage in maximizing the duration and concentration of active pharmaceutical ingredients on the oral mucosa, a feature not achievable by throat sprays or mouthwashes.

The selection of appropriate technology and lozenge type depends on the properties of the drug's active ingredients. For instance, if the active ingredient is thermolabile, the lozenge is prepared by compressing when heavy compression equipment is employed at high pressure. Preliminary wet granulation technology involves obtaining the required fraction of sugars or sweeteners with fillers first, followed by moistening the mixture with solutions of binding components.

The selection of constituent components and production parameters aims to ensure that the lozenge's dissolution occurs at an optimal pace-slow enough for efficacy but not excessively prolonged to meet consumer expectations. Compressed lozenges differ from classical tablets in terms of their qualities as finished products, the names and quantities of main excipient groups, and specific parameters at various stages of the technological process.

Excipients employed in the technology of compressed lozenges encompass sugars and sugar substitutes, sugar-free carriers, fillers, sugar-free and sugar-containing binders, antifriction agents, flavorings, and colorants.

Conclusions. Compressed lozenges are a promising dosage form for pharmaceutical development, providing both local and systemic effects on the patient's body.

FORMULATION OF BERBERINE ENCAPSULATION MASS SAMPLES

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Introduction. In the pharmaceutical development of medicinal products, one of the most important stage lies in selecting suitable excipients. These not only dictate the dosage form and administration method but also play a crucial role in preserving therapeutic efficacy and ensuring adequate bioavailability of the active component.

The purpose of the study. Based on the preliminary results of the analysis of the constituent components of the hard capsule content, to formulate experimental samples of masses for encapsulation with berberine to obtain a semi-product with a good fluidity value.

Research methods. To create experimental masses for berberine encapsulation with desirable fluidity, the constituent components of hard capsule content were analyzed preliminarily. Information from the medical usage instructions of hard capsule-based medicinal products (data from the State Register of Medicinal Products was used) was organized.