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

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КИЇВ

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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Antimicrobial preservatives are common in oral sprays (methylparahydroxybenzoate is employed in 9 MP, methylparaben – 6 L, propionic acid – 5 MP, sorbic acid – 3 MP, anhydrous ethanol – 1 MP).

The largest portion of identified excipients is dedicated to taste and odor modifiers. Sweeteners like sodium saccharin (present in 30 MP), sucralose (3 MP), sodium cyclamate (1 MP), acesulfame potassium (1 MP), refined sugar (3 MP), and sucrose (1 MP) are utilized. Essential oils, including peppermint (employed in 9 MP), lemon (7 MP), anise (6 MP), eucalyptus (4 MP), lime (4 MP), sage (3 MP), pineapple (1 MP), star anise (1 MP), and bitter orange (1 MP), are incorporated to enhance taste and aroma, providing a slightly irritating and cooling effect. Adjustments to taste and aroma are further achieved through the inclusion of levomenthol (menthol – 15 MP), cineole (eucalyptus – 9 MP), methyl salicylate (8 MP), and thymol (1 MP). Various flavorings like Cherry (3 MP), Mint (8 MP), Menthol (2 MP), and Lemon (1 MP) are found in the analyzed medicinal products.

Conclusions. Given the diverse array of excipients employed, a comprehensive experimental investigation becomes imperative in their selection. This ensures the harmonious combination of active and excipient elements, thereby guaranteeing the quality of the developing dosage form, rational technological methodologies, and specific storage conditions over a defined period.

CHITOSAN AS A HYDROPHILIC POLYMER FOR THE DEVELOPMENT OF MUCOADHESIVE BUCCAL FILMS FORMULATIONS

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Introduction. The development of a mucoadhesive pharmaceutical product depends not only on choosing an appropriate active substance capable of being absorbed through the inner cheek's mucous membrane, but also on finding a suitable polymer that satisfies all the criteria for mucoadhesive dosage forms.

The purpose of the study. To analyze scientific publications on the properties of chitosan, its ability to swell and form a hydrogel.

Research methods. Analysis of scientific publications data.

Results. Chitosan, a naturally occurring polymer, possesses attributes of safety (lacking toxic effects on the body), biocompatibility, non-allergenicity, and biodegradability. It is a highly basic (cationic) polysaccharide, owing its cationic nature to the presence of a primary amino group in its chemical structure. Two methods are employed to derive chitosan from chitin: chemical synthesis, the more commonly utilized approach due to its simplicity and cost-effectiveness, and enzymatic processes.

Through partial deacetylation of chitin, chitosan achieves solubility in an aqueous-acidic environment when the average degree of acetylation falls below 0.5. The creation of stable chitosan solutions involves the use of acetic, oxalic, and citric

acids. The resulting hydrogel properties are contingent on factors such as polymer concentration, temperature, pH, and ionic concentration.

Endowed with antimicrobial, antioxidant, immune-boosting, antitumor, and prophylactic capabilities against demineralization and enamel erosion, chitosan emerges as a promising foundation for developing mucoadhesive drugs.

Its mucoadhesive properties, particularly in the hydrated or swollen state, are attributed to its cationic nature. The amino groups within chitosan form ionic bonds with negatively charged mucin in the oral mucosa. The flexible polymer chains of chitosan foster hydrogel adhesion to the mucosa, ensuring robust mucoadhesion of oral fluids.

The practical significance of chitosan as a mucoadhesive polymer is substantiated by numerous experimental studies in pharmaceutical development, particularly in the formulation of buccal films.

Conclusions. We find it appropriate to utilize chitosan as a hydrophilic polymer for the production of a mucoadhesive buccal film.

ELABORATION OF THE CREAMS WITH SNAIL MUCUS

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Introduction. The search for new natural active substances is a new trend in medicine, cosmetology, and pharmaceutical technology. The snail mucus is rich in different biologically active substances. Several peptides are predicted to have antibacterial, antiviral, and antifungal activity. Therefore, the development of creams with antimicrobial activity for the treatment of wounds is a topical issue for Ukraine in conditions of the war with russia.

The purpose of the study was to develop the composition and technology of a nourishing wound healing cream containing vegetable oil (linseed, olive or sunflower), snail mucus, fat-soluble vitamins A and E for the treatment of the second and third phases of the wound process in order to accelerate the reparative processes of wound surfaces.