

## **THE URGENCY OF DEVELOPING DENTAL MEDICATIONS IN THE FORM OF MEDICATED CHEWING GUMS**

Iakovenko O.V., Masliy Ju.S.

The National University of Pharmacy, Kharkiv, Ukraine

realmanutd.ua@gmail.com

**Aim.** Nowadays, dental diseases are among the most common diseases in modern society. In this list leading positions are occupied by inflammatory periodontal diseases.

**Materials and methods.** Recently, there is a tendency in dental practice of using an integrated approach for the treatment and prevention of diseases of the oral cavity. Enzyme preparations are one of the most interesting groups of medicines in this case, because of the variety of different directions of their multifunctional properties. In this work, we proposed a mixture of proteolytic enzymes of animal – lysozyme and vegetable origin – papain. At the present stage of development of dentistry among the selection of active pharmaceutical ingredients (APIs), another important issue is finding the optimal dosage form. Another important method is the possibility of localized delivery of drug, the duration of action and constant concentration of the active substance.

**Results.** Today such dosage form as a medicated chewing gum (MCG) is gaining popularity owing to its advantages and opportunity to be used for local treatment of diseases of the oral cavity and for systemic delivery by direct absorption through mucous membrane. To date, the relevance of the use of MCG in dentistry is proved by many researches which were carried out by many scientists all over the world. However, very small number of national scientific research devoted to the study of this dosage form.

In dental practice proteases, which include lysozyme and papain, are used in complex treatment of pyonecrotic, inflammatory and degenerative processes in the oral cavity. They have antimicrobial, antiinflammatory, antiedematous, wound healing properties and prevents the formation of plaque (both microbial and pigment). Moreover, an important role has their particular effect on the microflora of the mouth as one of the key factors in the emergence of dental diseases. Drugs based on lysozyme and papain are represented mainly toothpastes, foam for oral hygiene and tablets. Medicated chewing gums with this APIs do not exist in the pharmaceutical market of Ukraine.

**Conclusions.** All things consider, our further aim will be developing a composition and technology of dental medicament based on lysozyme and papain in the form of medicated chewing gum.