

# INVESTIGATION OF PHYSICAL AND CHEMICAL PROPERTIES OF “ALOE-DENTAL” GEL

Iroko Emamuzo Matthew, Khokhlenkova N. V.  
National University of Pharmacy, Kharkiv, Ukraine  
mayorbosspromo@gmail.com

**Introduction.** Because of the present busy life of humans these days, dental diseases are most common diseases in children and adults. Today dental caries remain one of the most common diseases throughout the world. It's also known as tooth decay, periodontitis, mouth cancer, bad breath, and many other.

Due to the side effects and the resistance that pathogenic microorganisms build against the common antibiotics, much recent attention has been paid to extracts and biologically active compounds isolated from plants used in herbal medicine.

Earlier Composition and technology of gel based on plant extracts (Aloe and oak bark) was developed at the Department of Drug Technology.

In order to ensure the pharmacotherapeutic effect of the drug, biologically active substances of natural origin: thick oak bark extract, which is a complex of plant polyphenols and exhibits anti-inflammatory, antimicrobial, membrane stabilizing, hemostatic activity and aloe extract, which has a pronounced antimicrobial properties and accelerates regeneration were entered in gel.

**Aim.** the aim of our work was physico-chemical and pharmaco-technological research of new dental “Aloe-dental”gel.

**Material and methods** Due to the experimental data, we have prepared samples of gel "Aloe-dental" by different technological process. According to the first technology, the introduction of active ingredients was conducted into the finished gel and by another technology was introduction active ingredients into the dispersion medium before thickening of gel.

**Results and discussion.** Gels, derived by both technologies, have gel-like uniform consistency with a specific pleasant smell and brown colour, pH 6,0-7,0. However, the study of colloidal and thermal stability proved the stability system, prepared only by the first technology.

**Conclusion.** On the basis of thermographic investigations gel, active substances and excipients, it was found that thermal effects studied samples are similar in nature, which may indicate no chemical interaction between the components of the gel, prepared on the proposed technology.