

THE STUDY OF THE ASSORTMENT OF GELS BASES

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Introduction. Gels are soft medicinal forms for local use that represent dispersive systems with a liquid dispersive medium, the rheological properties of which are due to the presence of gelling agents at low concentrations. Bases are important components of gels and are 90 % or more of the total weight of the medicine. Therefore, in the development of a medicine is an important to choose the right base due to of its physicochemical and rheological properties.

The **aim** of this work is the analysis of the assortment of gels bases, their classification by physicochemical parameters with subsequent selection of the base for the development of a new dosage form based on the active pharmaceutical ingredient.

Materials and Methods. In order to achieve this aim, various literature sources were searched, collected and analyzed in detail. The literature was searched using scientific database “PubMed”, Scientific Electronic Library “CyberLeninka” and search system that indexes the full text of scientific publications of all formats and disciplines – Google Scholar.

Results and Discussion. When analyzing the literature on gel bases, it was found that by State Pharmacopoeia of Ukraine gel bases are classified by their affinity for water: lipophilic and hydrophilic; by the type of dispersive systems: single-phase and multiphase. As hydrophilic solvents can be used purified water, propylene glycol, glycerol, ethanol, isopropanol, PEG-400. In this case, synthetic carbomers, collagen, cellulose derivatives, and tragacanth are used as gelling agents. Hydrophilic bases are compatible with many active pharmaceutical ingredients, easily releasing them from the external aqueous phase into the environment of the body. Such hydrophobic solvents as vaseline or vegetable oils, silicone liquids are used for the preparation of oleogels. Unlike fatty oils, silicone liquids do not bite during storage. Such gelling agents as low molecular weight polyethylene or colloidal silicon are used for preparing oleogels.

Conclusions. The choice of the gel base should be justified with the consideration of physical, chemical and rheological properties, as well as compatibility with these indicators with active pharmaceutical ingredients. Results of the analysis of the collected information indicate that the pharmaceutical market of Ukraine has a quite wide range of different bases for gel production.