

maximizing the therapeutic effect. For a uniform distribution of dispersion sizes it is useful to use the calibration technique. An important reason is that nano-size offers a number of advantages such as: significant increase in total particle size, increased solubility, bioavailability and drug dose reduction.

**Conclusions.** The progress of nanotechnologies and the development of different types of nanoparticles offer new opportunities and challenges for medicine and pharmacy.

So the traditional methods of existing analysis that are applied in this area are not enough when it comes to nanomedicines. However, fortunately, technological progress has brought new, more sophisticated analysis technologies that open up new opportunities in nanomedicine research.

**Key words:** nano-drugs, analysis, nanotechnology

### 358. LIPOSOME FORMULATIONS' METHODS OF ANALYSIS

Author: **Mihail Anton**

Scientific adviser: Eugen Diug, MD, PHD, Professor, Drugs Technolgy Department

*Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova

**Introduction.** The pharmaceutical nanotechnologies represent one of the most progressive and promising branches of pharmaceutical technology. They permit the modification and directing of the properties of active substances without the modification of chemical structure. For the new nano-drug formulations, exists the need of implementation of new methods of analysis that will take into account not only the chemical structure of the substance, but also the macro-molecular formulation and its parameters.

**Aim of the study.** The aim of the study was the literature review of the existing methods for the analysis of liposome formulation and their application to a specific formulation with antibiotic substance.

**Materials and methods.** A literature review of existing methods of analysis of liposomes was performed. The methods of analysis were classified in classes, depending of the studied formulation parameter. If possible, the method was applied for the study of the parameters of the formulated liposomes with antibacterial substances.

**Results.** In order to establish the existing methods of analysis of for liposomes, a study review of 94 literature references was performed (basically from PubMed and Medline library). The methods of analysis were classified in 3 classes: optical, chemical and physico-chemical methods. Using some of these methods, that were applicable to our study object, the parameters of a prepared liposomic formulation were established. The methods were tested for linearity, repeatability and reproducibility.

**Conclusions.** The results have shown that a part of classical methods for analysis of a liposomic formulation sometimes are not enough to describe the studied preparation and to predict its efficiency. Also, different liposomic formulations have demonstrated different results at the application of the same method of analysis. This fact demonstrates the need of elaboration of specific technics of analysis for each individual liposomic formulation.

**Key words:** liposome, methods of analysis

### DEPARTMENT OF PHARMACOGNOSY AND PHARMACEUTICAL BOTANY.

### 359. SPECIES SOLIDAGO CANADENSIS L. AS INVASIVE PLANT

Author: **Nadejda Florea**

Scientific adviser: Fursenco Cornelia, MD, University assistant, Department of pharmacognosy and pharmaceutical botany

*Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova