

Introduction. Today, the use of mathematical models in the pharmaceutical field is an urgent problem. This is the so-called mathematical biological modeling, based on data on physiology, biochemistry and regulation of processes in the body. In addition, it allows one to assess the rate of spread of the drug in the body and its interaction with the target, which makes it possible to more accurately understand the potential of the target and select the most promising molecules with the optimal combination of biotherapeutic properties at the early stages of drug development without access to detailed clinical information.

Aim. As you know, mathematical modeling is the process of building and studying mathematical models, which, in turn, are a virtual mathematical structure created on the basis of experimental data and having all the properties of a real object. With the help of mathematical models, you can find optimal solutions with high accuracy, predict possible outcomes of certain processes, and make the most informed decisions.

Materials and methods. Analysis of scientific literature has shown that with the help of mathematical models it is possible to determine the synthesis of pharmacology and innovative statistical methods, to conduct a quantitative analysis of data on the action of a drug and the development of diseases, both at the population and individual levels. Along with this, also use the maximum amount of information to understand the ongoing processes in the interval between taking the drug and the response of the body.

Results and discussions. Note that the mathematical model of a medicinal product should be an aggregate of algorithms that describe the functional properties of the created medicinal product. It should contain, written in the form of mathematical expressions, all the basic requirements for the object being created, reproduce the image of the object being created, which meets all the pharmacological, technological and consumer requirements that are presented in the framework of a particular study. In addition, each component of the developed model should describe a separate property of the compound, and the combination of all these elements will just represent a model of a functioning drug.

Conclusions. To conclude, mathematical modeling is one of the most promising methods for increasing the efficiency of the process of creating new drugs.

RESEARCH THE RELEVANCE OF THE ISSUE INTRODUCTION OF ELECTRONIC SALES OF MEDICINES

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Introduction. The introduction of electronic sales of medicines in the pharmaceutical market of Ukraine in recent years has been a very controversial issue. Most of the pharmacy chains have developed their own pharmacy websites where each patient can find information about the availability and prices of medicines. It should be noted that the introduction of the above online service in pharmaceutical activities did not contradict the Licensing requirements for the retail sale of medicines, approved by the Resolution of the Cabinet of Ministers of Ukraine 30.11.2016 № 929. After all, the process of selling medicines itself took place in the premises of a pharmacy that has an appropriate license, and the patient could receive advice on the rational use of medicines within the framework of pharmaceutical care from a pharmacist who meets the approved qualification requirements. However, the establishment in 2020 by the Cabinet of Ministers of

Ukraine of quarantine in accordance with the Law of Ukraine dated 06.04.2000 No. 1645-III "On the protection of the population from infectious diseases" (as amended on 23.05.2020) in connection with the spread of coronavirus diseases (COVID19), have led to a restriction of the availability of various segments of the population to pharmaceutical. In turn, restrictions on movement, self-isolation, an increase in the risk of contracting coronavirus infection have created conditions for the development of e-commerce by introducing a new type of economic activity of pharmaceutical enterprises – electronic retail sale of medicines, which provides for the receipt, formation, storage and delivery of orders of medicines and their distribution to the end consumer.

Aim. To investigate the relevance of the introduction of electronic sale of medicines in Ukraine.

Materials and methods. The materials of the study were scientific articles, materials of periodical industry publications, regulatory documents on the regulation of electronic commerce. The documentary, regulatory and legal method of data analysis was used as research methods.

Results and discussion. According to the results of the study, it was determined that in March 2020, by the Resolution of the Cabinet of Ministers of Ukraine dated 03.23.2020 No. 220 "On Amendments to the Licensing Conditions for Carrying out Economic Activities for the Production of Medicines, Wholesale and Retail Trade in Medicines, Import of Medicines (except active pharmaceutical ingredients) was allowed to pharmacies to sell medicines using the Internet. The changes facilitated the involvement of about 5000 pharmacies from all over Ukraine in the electronic sale of drugs and transport companies in the process of their delivery to the customer. Thus, the transport company "Nova Poshta" for the period March-July 2020 fulfilled more than 70 thousand orders for the delivery of medicines, which were purchased with the help of information and communication tools. More than 10 pharmacy chains and pharmaceutical companies specializing in the sale of medical products have chosen Ukrposhta as a transport company to deliver the drugs ordered to the end consumer.

However, the Resolution of the Cabinet of Ministers of Ukraine dated 23.03.2020 No. 220, which legalized the electronic sale of medicines, does not determine the procedure for carrying out this type of activity, the requirements for participants in the electronic trade in medicines and ensuring the patient's right to receive high-quality pharmaceutical care. In addition, the place of the state has not been allocated in matters of control over the proper fulfillment of the Licensing requirements in terms of retail sale of medicines, including remotely.

Conclusions. Despite the provisions of the Resolution of the Cabinet of Ministers of Ukraine dated 03.23.2020 No. 220 on the introduction of electronic retail sale of medicines, the legal regulation of this process requires revision, approval and should be aimed at: legalization of electronic sale of medicines from pharmacies and their structural units; development of requirements for participants in the electronic sale of medicines (websites of pharmacy chains, aggregator websites for searching medicines; ensuring compliance with quality control in the implementation of electronic sale of medicines, conducting a legal assessment and determining the penalty for failure to comply with certain requirements when dispensing medicines by the pharmacy and delivery service; ensuring compliance with the necessary requirements for storage and transportation (temperature regime, the influence of environmental factors, etc.) when delivering medicines to the end consumer and determining the degree of responsibility of the transport company and pharmacy for the quality of the medicine, is implemented electronically; ensuring the implementation of pharmaceutical care by a qualified specialist online in order to prevent irrational use or abuse of drugs, can lead to a negative impact on the patient's health.