services. However, the proper presentation of the information on the web-site facilities the search of the required information and attracts more clients to use on-line services. The later increases the outcome of the company as well.

Aim. The aim of this research is to find the main principles of web-sites construction and the main ways of the information presentation for Ukraine and Belarus.

Materials and methods. The information from the open Internet sources of over than 20 web sites of the pharmacy networks in Ukraine and Belarus.

Results and discussion. All the sites (100%) of the pharmacy networks in Ukraine and Belarus are corporative web sites. Those sites have many functions and well-developed usability. Most of the sites of the pharmacy networks (95%) can match the screen of the user's device. All the web sites have the same template called "HEADER". It presents the company name, its logo, contact information, main menu and the language switchers buttons. The style of corporation if followed in all cases (100%) of site design. The developers in many cases apply the modern "SLIDE" technology not only for presentation of photos but also used for video information. For instance, the SLIDER of the biggest pharmacy network in Belarus — RUP «BELPHARMATSIYA» covers the whole screen. The so-called "carousel" algorithm does switching between slides on these web sites.

An interesting example of improved services given via the Internet is suggested by Pharmaceutical company Magnolia Pharmacy Chain; its name is GeoApteka and it allows excess to the latest information about the prices, availability of the drugs, and the location of the nearest pharmacies, where the required items can be found.

Conclusions. The analysis of the latest trends of information content for the largest pharmacy networks of for Ukraine and Belarus showed that the companies support them in a proper way. They use the latest innovation for improvement of their web sites. Therefore, the presentation of the information meet the latest standards of the proper web site design.

MATHEMATICAL MODEL OF ANTIMICROBIAL DOSING ON ESCHERICHIA COLI

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Introduction. For today an actual problem in medical and pharmaceutical sphere is development of mathematical model of the maximum efficiency of antimicrobial preparations, and also the minimum risk of occurrence of organism to their stability.

Aim: To evaluate the effect of two antimicrobial dosing regimens developed on Escherichia coli, in particular, enrofloxacin.

Materials and methods. Scientific medical-pharmaceutical literature and publications in recent years were used to analyze the research.

Results and discussion. As you know, mathematical modeling is a process of building and studying mathematical models, which, in turn, are a virtual mathematical structure, created on the basis of experimental data and possessing all the properties of a real object. With the help of mathematical models it is possible to find with high accuracy the optimal decisions, to predict possible outcomes of these or those processes, to make the most informed decisions.

The 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 effects of the drug and the development of diseases, both at the population and individual levels. At the same time, it is also possible to use the maximum amount of information to understand the processes taking place between taking the drug and the response of the body.

Note that the mathematical model of a medicinal product should be a set of algorithms that describe the functional properties of the created medicinal product. It should contain recorded in the form of mathematical expressions all the basic requirements for the created object, reproduce the image of the created object, which corresponds to all the pharmacological, technological and consumer requirements that are required in a particular study. In addition, each component of the developed model should describe a separate property of the compound, and the set of all these elements will represent the model of a functioning drug.

The developed model is an attempt to combine antimicrobial drug concentrations with their effect on bacterial concentrations in the gastrointestinal tract and describes the work of enrofloxacin in subcutaneous administration. The results highlight the need for further data collection to better understand these dynamics. Experimental data also indicate that the initial sensitivity of enrofloxacin in the gastrointestinal tract is a strong indicator of how patients will respond to antimicrobial treatment. This model emphasizes the importance of the prudent use of antimicrobials and the need for isolated testing before antimicrobial treatment is started.

The model is based on solving a system of differential equations with such initial conditions:

$$S(0) = 0\,\frac{\text{mg}}{\text{kg}},$$

$$P(0) = 0\,\frac{\mu g}{mL},$$

$$C(0) = 0\,\frac{\mu g}{mL},$$

where S is the dose set n times with time intervals T, modelled by the function Dirac δ(t-iTc), P - the total concentration of bound and unbound antimicrobial in the blood plasma, C - the total concentration of unbound antimicrobial in the large intestine at a rate of passive diffusion α and actively transported to the small intestine with subsequent transition to the large intestine.

Conclusion. The results of the study showed that changes in the motility of drug administration affect the resistance of treatment of patients. Namely, slow administration through the large intestine reduces the growth of all bacteria in both dosing modes, while rapid administration reduces the growth of E. coli in low dosing modes.