THE VIRTUAL LABWORK ON PHARMACOKINETIC

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UNESCO has declared the two basic principles of the modern education: "Education is for everyone" and "Education is lasting during life." However, the traditional forms of education are not able to provide a high quality of these principles. This is dictated by the emergence of new forms, such as a distance learning form. For distance learning there is an issue of acquisition of practical skills of learners. Their receipts during preparation for any laboratory work. Are an integral part of the traditional educational process. Is there an alternative? It's no a secret that technological progress has changed dramatically the skills needed for scientific researcher . In the first place there are the skills of planning an experiment based on the technical equipment. In addition, many objects of experiments may be a considerable distance from the researcher. The Means of communication are, more than ever, significant in the modern science and industry. All this factors lead to the possibility and necessity of the use of the virtual labs in the learning process for all forms of learning.

Based on the pharmacokinetic model with subchambers we have developed a virtual laboratory work on pharmacokinetics. Many different factors, such as sex, weight, age, and the water balance of the patient and the random factors have been taken into account. The program is equipped with a user-friendly interface. The object of the research is the process of absorption and excretion of substances from the human body. Modeled by a one-time intramuscular injection. The concentration of the studied substance is monitored in plasma and urine. Researchers need to find the coefficients of absorption and elimination, the maximum concentration of a substance in the blood, the appropriate time and half-life for each patient. According to the results of tests of several patients need to find confidence intervals and make a final conclusion. The accuracy of control of finding numerical values is automated. According to the results of the virtual lab, the program generates a result file that is sent to the teacher. The algorithm of the virtual laboratory work is implemented in C++ code.