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**НАУКОВЕ ТОВАРИСТВО СТУДЕНТІВ, АСПРАНТІВ, ДОКТОРАНТІВ І
МОЛОДИХ ВЧЕНИХ**

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**науково-практичної конференції з міжнародною участю
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QUANTITATIVE DETERMINATION OF GABAPENTIN BY SPECTROPHOTOMETRIC METHOD

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Gabapentin is an antiepileptic product for oral administration. Epilepsy is considered one of the most common chronic neurological diseases among humans. About 50 million people worldwide live with epilepsy and 2.4 million new cases are reported each year. There are about 100,000 people having epilepsy in Ukraine. Epilepsy is a chronic disorder of brain activity that is characterized by repeated attacks. The structure of gabapentin is similar to the GABA (gamma-aminobutyric acid). That is why the urgent aim for pharmaceutical analysis is developing of high precision, valid, accessible and express methods of quantification.

Due to this, the problem of finding highly sensitive, sufficiently selective and available reagents that form colored compounds with medicinal substances is acute.

The aim of our work was to develop methods of quantification of gabapentin in “Gabapentin” capsules, containing 300 mg of gabapentin (Lekchim (Ukraine) 10220 series) based on the reaction with Diasol red 2G.

Material and methods. We identified experimentally the factors that affect the course of the reaction, namely: the solvent and the amount of added reagent. It was clarified that Diasol red 2G (an 0,042 % acetone solution) reacts with gabapentin at room temperature in water-acetone medium to form a colored product with maximum absorbance at 390 nm.

Results. The Behr's law is obeyed in the range of gabapentin's concentration of 2.10 – 3.64 mg / 100 ml. The sensitivity of the reaction is high: the limit of detection is 1.19 µg / ml, and the molar absorption coefficient is $7.15 \cdot 10^4$.

Conclusions. According to the SPU's requirements, the methods of quantitative estimation that can be included in the ARD (analytical regulatory documentation) must be valid. That is why some validation characteristics, in particular: accuracy, precision, linearity and robustness.

Consequently, the data, which we have got, confirm that the developed method is accurate, precise, highly sensitive, economical and easy-to-use. So, it can be recommended for use in the routine analysis of gabapentin pharmaceutical drugs.

REVIEW OF HEALTH INFORMATION SYSTEMS IN INDIA

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Today when Internet and systems for receiving, accumulating, transmitting, processing and analyzing information cover all countries, it is obvious that medical information systems are of significant interest. This is especially important in countries like India, with a population of 1.21 billion residing in over 3.2 million square km area hindered by varied landscapes.

India has medical information systems for various purposes. There is an information system designed to collect and process general information about the citizens of the country, about their visits to hospitals, about the drugs prescribed to these patients. This is an administrative system. On its basis, the structure of morbidity is analyzed, trends are established, and the need for certain groups of drugs is determined. Such medical information systems allow making operational decisions on events with citizens. In clinics that have diagnostic equipment, world-famous programs for the analysis of medical images, processing of laboratory research results, biological signals such as ECG, EEG, EMG, etc. function. These are usually personal data, they can also be analyzed, summarized, and this gives an idea of the general mechanisms of the course of diseases in different groups of patients. This approach