STUDYING THE ASSORTMENT AND PROCEDURE OF COMMERCIAL ANALYSIS OF GLUCOMETERS

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Introduction. Currently a disease like diabetes mellitus becomes more common and even "younger". Diabetes is a chronic disease that occurs as a result of impaired insulin production by the pancreas, or in the event that, if the body is not able to effectively use the produced insulin, and this leads to an increase in the level of glucose in the blood. There are two types of diabetes: the first type occurs because of the lack of insulin production, the second arises – because of inefficient use of this hormone by the body.

Regardless of the type, this disease has a negative effect on many organs and systems, causes considerable discomfort, caused by the need to constantly monitor blood glucose levels. In order to simplify this procedure, and for the possibility of self-monitoring, glucometers are used.

Aim. We decided to analyze the assortment of devices for measuring glucose in the blood, as well as their physical, technical, technological and cost indicators.

Materials and methods. When doing research, we used empirical and experimental-theoretical methods, in particular – we used observation, comparison, measurement, study of literature, generalization, analysis of published data on reviews and analysis of questionnaires for consumers of glucometers, description, classification.

Results and discussion. Glucometer is a device for measuring blood glucose level. According to the principle of action, glucometers are divided into photometric and electrochemical.

Photometric glucometers are calibrated for whole capillary blood, they determine the glucose content by changing the shade of the reagent that arises from the reaction of glucose with the special substances deposited on the test strip. They are devices of the "first generation". But at the moment their technology is considered obsolete.

Electrochemical glucometers measure glucose levels by measuring current, which appears during the interaction of blood with special substances deposited on the test strip.

These devices are more progressive and they allow to exclude the influence of external factors on the result. To date, there are many models of glucometers, ranging

from the simplest, basic, and ending with multifunctional devices with various auxiliary capabilities.

The kit for level measurement includes the following elements: Glucometer, semi-automatic scarifiers, test strips, batteries. Additional functions of modern devices can include: alarm-clock, built-in memory with the preservation of the results of past measurements, communication with the PC, alignment with the tonometer, and with voice function.

Choosing a glucometer for the elderly, the main emphasis should be made on the type of calibration to which they are already accustomed.

During numerous clinical studies and meetings of medical experts it was proved that the determination of the level of glucose by plasma is the most accurate. That is why this kind of calibration is the basis of most of the laboratory equipment, and is considered the main reference point for choosing a home glucometer.

The most common are glucometers manufactured by Bayer, One Touch, Omelon, Elta. Implemented in Ukrainian pharmacies glucometers are in the price range from 266.00 UAH. (Sensolite NOVA PLUS, CFT, Hungary), up to 1320.00 UAH. (Accu-Chek Performa Nano, Germany).

At acceptance of the given kind of the goods the order of carrying out of the commodity analysis of devices for measurement of a glucose in blood is carried out in some stages.

The first stage is the design and correspondence of the accompanying documents.

The second stage – analyze the appearance of the package and the absence of visible damage to it.

The third stage is to check the completeness of the devices for measuring glucose in the blood.

The fourth stage is an organoleptic analysis of glucometers and verification of the health and functional properties of the device.

The fifth stage is the preparation of a written permission for the implementation of devices for measuring glucose levels.

The sixth stage is distribution to storage locations and implementation.

Conclusions. In this way, glucometer is an indispensable electronic device for personal use by people, who suffer from diabetes, as well as those who want to control the level of sugar in their blood for prevention.

As a result of the conducted studies, we studied the principle of operation and configuration of devices for measuring blood glucose level.

We analyzed the assortment and cost of glucometers with a set of various functions, and also we determined the stages of carrying out commodity analysis when accepting this type of goods.