

## **ASPECTS OF COMMODITY RESEARCH OF MEDICINAL THERMOMETERS**

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Galileo Galilee is considered to be the inventor of thermometer. He has created the device consisting of an air containing ball and thin tube with water. When air in a ball was heated up or cooled, water column changed its height accordingly. However, was not applied in medicine. The first medical thermometer appeared in the XVIIIth century which was one foot in length and was very inconvenient in use. After long period of time thermometers became more advanced, and now in the world there is very large variety of these goods.

The purpose of the given work is commodity analysis of assortment, application and consumer properties of medicinal thermometers in the domestic market.

Thermometer (in Greece θερμη - heat; μετρέω - to measure) - the device for measuring temperature of a body, air, ground, water and so on.

As a rule, most of diseases or pathological processes in a human organism are accompanied with changes of temperature parameters in a body. Increased temperature is the first sign which specifies to the beginning of disease. Besides, changes in temperature parameters at early stages of disease help to fix the exact diagnosis more precisely. Therefore daily measuring of temperature parameters and their daily account are obligatory procedures which allow to control state of a sick person. The thermometry is carried out two times a day - in the morning on empty stomach and in the evening (before last meal).

In order to measure temperature various kinds of medical thermometers are applied: mercurial (which working principle is based on ability of mercury to expand under temperature increase); electronic (high-technological, universal devices in which one side has a thermosound, another one has a display to output data obtained by temperature measuring which can be made in different ways - orally, rectally or under one's arm); contactless infra-red (with presence of supersensitive detectors reacting on infra-red rays coming from a human body; they allow to obtain exact temperature parameters by directing thermometer onto an object measured without touching its surface. In their turn these thermometers are subdivided on aural, frontal ones and thermometers-papillas); single-use ones presented by several thin plates on which dot sectoring is rendered and parameters of temperature are determined by

color of points.

The most wide-spread thermometers on the Ukrainian market are:

- mercurial: "IGAR" (W.H.G Medical Equipment Co., LTD under the order of the firm "Igar", Ukraine); "Steklopribor" (Ukraine); "Impex-Med" (Russia); Gamma T 50, Gamma (Taiwan); Medicare MC-RT (Great Britain);

- contactless infra-red: Hebei Create (China); HM Digital Inc. (USA); Baby Ono 116 (Poland); Maniquick MQ150 (Switzerland); CITIZEN CT-461C; OMRON Eco Temp Basic; OMRON Flex Temp Smart (Japan); ARZUM BEBBE THERMOMETER (Turkey); aural One Second from HoMedics (development of the USA, manufacturing of China); Medisana CL 76120 (Germany); children's thermometers Topcom TH 4655, measuring temperature of ear, throat, forehead (Holland); multifunctional – Topcom TH-4655 (Belgium);

- electronic VEGA MT J18-BC (Great Britain); Vega MT418-BC (Germany); Terrillon 06548 (France); Meditech AMDT-12 (Japan); Little Doctor LD-300 (Singapore); Breded BD1130 (Italy); LONGEVITA MT-4218 (Great Britain); AEG FT 4904 (Germany); Microlife MT-3001 (Switzerland); MEDICARE MPTI 025; DT-806 C, Heaco (Great Britain); Medisana FTF (Germany); Beurer FT 09 (Germany).

Thermometers are manufactured according to requirements of the standards for a certain type and also graduated in Celsius degrees (°C) by the International practical temperature scale.

Glass mercurial medical thermometers are packed into initial package by the piece, and then in a cardboard box on 12 piece (according to the normative document on a concrete kind) or a pack (secondary or group packing). The complete set of delivery should include the thermometer and the operational documentation. Under the order of the consumer the thermometer can be delivered without a case.

Thermometers in initial packages should be packed into the shipping package providing their safety during transportation and storage. It's allowed to transport by any kind of closed vehicles.

Storage: in place protected from atmospheric precipitations, under temperature from – 35°C to +42°C avoiding mechanical, chemical and physical influences.

As a result of research of medicinal thermometers assortment provided by us it was found, that by its functionality the widest and various assortment of thermometers in Ukraine is submitted by manufacturers from foreign countries. Therefore, for our country it's necessary to improve researches in the field of new kinds of given production, and also to adopt the experience of foreign manufacturers concerning variety of thermometers assortment and methods of their manufacturing.