

M. D. KHALANGOT<sup>1</sup>, V. G. GURYANOV<sup>2</sup>, V. A. KOVTUN<sup>1</sup>

## Identification of Risk Groups for Development of Severe Consequences among Patients with Diabetes Mellitus Using "Kohonen's Neuronal Networks Model"

<sup>1</sup> *V.P. Komisarenko Institute of Endocrinology and Metabolism AMS  
Ukraine, Kyiv, Ukraine*

*E-mail: nikhalangot@ukr.net*

<sup>2</sup> *Donetsk National Medical University, Donetsk, Ukraine*

*E-mail: gur@dsmu.dn.ua*

Proposed is a method [1, 2] for an overall assessment of contingents of patients, included in the population-based registers of patients to improve rendering medical services and plan expenditures for health care. A mathematical model of development of "Kohonen's neuronal networks" in a multidimensional features area, which describes single-type objects, was used to identify a cluster of diabetes mellitus patients with a high risk of development of severe outcomes (disability, blindness, death). An objective distribution of the registered diabetic patients of the Donetsk and Sumy Oblast has been made with special reference to the forecast of development of severe diabetes outcomes.

[1] *Jurn AMS Ukraine* **13**, 1, (2007), p. 133-141.

[2] *Patent # 22308* (19) UA