

bodies to CCP in peripheral blood of patients with RA was  $116,4 \pm 19,2$  U / ml compared to  $2,2 \pm 0,44$  U / ml in subjects of healthy control group.

In conclusion, persistence of the high level of IL-6, CRP, RF, antibodies to CCP in peripheral blood of most of patient with RA is a valuable marker of inflammation to characterize disease activity that is closely related to summarized clinical DAS28 scoring.

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## **CAUSES OF CHILD MORTALITY IN THE REPUBLIC OF BELARUS**

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**Problem Statement.** Children mortality rates are indicative of the health status of the population. Evaluation of children mortality causes enables to detect the most severe forms of diseases playing a significant part in the child mortality structure thus facilitating the targeted disease control.

**Objective:** to study structure and dynamics of child mortality according to the causes during the period from 2005 to 2014 and to detect the age peculiarities.

**Study subjects and methods:** The formal statistic data on mortality rates of the child population in the age of 0–17 as well as on infant mortality were analyzed. The following methods were used: relation coefficient calculation, relative number error calculation with the aim to detect statistical significance, calculation of the longstanding tendency according to the first-order parable and evaluation of statistical significance.

**Results and discussion.** During the period from 2004 to 2014 the structure of child mortality causes remained fairly stable. Dominated were the accidents, injuries and intoxication accounting for more than 30%. Certain conditions originating in the perinatal period were the second most frequent causes – 19.14%, followed by the birth defects – 17%. Nervous system disorders accounted for about 8.5%, tumor growths constituted 6.1%; infectious diseases – 4.8%. Generally, mortality of the child population during this period was characterized by the definite downward trend – the trend index constituted 2.53 per 100 thd. children ( $R^2 = 0.93$ ) due to decrease of child mortality indexes from external causes by a factor of 2.1 ( $A_0 = 17.73^0/0000$ , annual trend index  $A_1 = -1.36^0/0000$ ,  $R^2 = 0.91$ ) and birth defects by a factor of 1.5 ( $A_0 = 9.12^0/0000$ ,  $A_1 = -0.49^0/0000$ ,  $R^2 = 0.79$ ). Average annual rate of child mortality caused by the nervous system diseases was at the level of  $4.34^0/0000$ , child mortality from malignant tumors averaged to  $3.26^0/0000$ , and from infectious diseases –  $2.21^0/0000$ . Analysis performed did not detect consistent tendencies in the child mortality dynamics from these causes. Generally, child mortality rates during the period studied decreased by a factor of 1.5: from 64.3 per 100 thd. children in 2005 to 43.7 in 2014.

One of the most important component of child mortality is infant mortality. In several years, the infant mortality rate exceeded 50%. Generally, during the period studied the infant mortality decreased from 641.4<sup>0</sup>/0000 in 2005 to 345.6<sup>0</sup>/0000 in 2014 or by a factor of 1.9. The main reasons of infant mortality were certain conditions originating in the perinatal period and birth defects. Their aggregated proportion constituted 64.86%. 8.9% cases of infant mortality were caused by the accidents, 6.4% – by infectious diseases, respiratory diseases and nervous system diseases accounted for 5.8% and 4.4% correspondingly.

**Conclusion.** During the period studied child mortality in the Republic of Belarus decreased by a factor of 1.5, including the infant mortality that decreased by a factor of 1.9. This tendency points to effectiveness of medical assistance provided for children and adolescents and life quality improvement of the population in general.

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## **THE ROLE OF ESTABLISHING THE MAXIMUM ADMISSIBLE CONCENTRATION OF MEDICINAL SUBSTANCES AT PHARMACEUTICAL ENTERPRISES**

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With the growth of drug production volume, hygienists and occupational therapists are getting into the following tasks :

1. Severization of quality requirements applied in industrial environment at chemico-pharmaceutical enterprises;

2. Implementation of hygiene standards to ensure healthy and safe working conditions at the production of potentially dangerous chemicals and compounds.

Specifics of drug production is largely determined by its preproducts and end products. Preproducts are substances obtained at particular production stages. End products are medicinal drugs by itself.

In the working area concentrations of these compounds may exceed the permitted levels. It is especially true for operations related to loss of containment, loading and unloading of bulk solids, technological sample selection.

Inhalational penetration of toxicants is of greater danger, as most of the air cells surface is actively washed by blood, which facilitates rapid absorption of toxicants and their conveying to the vital centers. Consequently, in the chemical and pharmaceutical industry the most common occupational diseases are:

- rinolarongofarengit (a disease of the mucous membranes of the nose, throat, larynx),
- erosion (ulcer) and perforation of the nasal septum,
- tracheitis,