

Assessment of the Impact of Atmospheric Air, Drinking Water and Socio-Economic Indicators on the Primary Incidence of Children in Altai Krai

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Abstract : The number of environmental factors that adversely affect children's health is growing every year; their combination in each territory is different. The contribution of socio-economic factors to the health status of the younger generation is increasing. It is the child's body that is most sensitive to changes in environmental conditions, responding to this with a deterioration in health. Over the past years, scientists have determined the influence of environmental factors and the incidence of children. Currently, there is a tendency to study regional characteristics of the interaction of a combination of environmental factors with the child's body. The aim of the work was to identify trends in the primary non-infectious morbidity of the children of the Altai Territory as a unique region that combines territories with different levels of environmental quality indicators, as well as to assess the effect of atmospheric air, drinking water and socio-economic indicators on the incidence of children in the region. An unfavorable tendency has been revealed in the region for incidence of such nosological groups as neoplasms, including malignant ones, diseases of the endocrine system, including obesity and thyroid disease, diseases of the circulatory system, digestive diseases, diseases of the genitourinary system, congenital anomalies, and respiratory diseases. Between some groups of diseases revealed a pattern of geographical distribution during mapping and a significant correlation. Some nosologies have a relationship with socio-economic indicators for an integrated assessment: circulatory system diseases, respiratory diseases (direct connection), endocrine system diseases, eating disorders, and metabolic disorders (feedback). The analysis of associations of the incidence of children with average annual concentrations of substances that pollute the air and drinking water showed the existence of reliable correlation in areas of critical and intense degree of environmental quality. This fact confirms that the population living in contaminated areas is subject to the negative influence of environmental factors, which immediately affects the health status of children. The results obtained indicate the need for a detailed assessment of the influence of environmental factors on the incidence of children in the regional aspect, the formation of a database, and the development of automated programs that can predict the incidence in each specific territory. This will increase the effectiveness, including economic of preventive measures.

Keywords : incidence of children, regional features, socio-economic factors, environmental factors

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