[Assessment of schoolchildren's adaptation under the conditions of iodine deficiency and ambient air pollution]

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Author: V M Prusakov  
A V Prusakova  
N I Matorova

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Keywords: Adaptation, Physiological  
Adolescent  
Age Factors  
Air Pollution  
Child  
Comparative Study  
Female  
Humans  
Iodine - deficiency  
Male  
Siberia  
Stress - physiopathology  
Thyroid Gland - physiology  
Urban Population

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The paper presents data on lipid and protein metabolic parameters, hormonal profile, physical development, and the cardiovascular system in school children with and without diffuse thyroid enlargement from the industrial centers of the Irkutsk Region. The study has revealed changes in metabolic processes, physical development, and blood circulation in the population of children, which are considered to be manifestations of adaptive processes to environmental factors, primarily chemical ambient air pollution and iodine deficiency.
[Methodical complex for the assessment of mass noninfectious prevalence rate and the medico-ecological situation in the territory].

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Author: A V Prusakova
V M Prusakov

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Keywords: Cross-Sectional Studies - methods
Environmental Illness - epidemiology
Environmental Monitoring - methods - standards
Forecasting
Humans
Morbidity - trends
Population Health - statistics & numerical data
Risk Assessment - methods
Siberia - epidemiology

Abstract: The purpose of this article - the narration of main provisions of the algorithm of the system use of techniques and methods for the determination of the epidemiological risk for the morbidity of the population for the identification and assessment of mass noninfectious diseases, local variants of population health and the degree of stringency of medical and environmental conditions (or ecological trouble), in areas of industrial and non-administrative units of the area (region). Control-flow chart for the evaluation of mass non-communicable diseases and medical-ecological situation in the territory on the basis of techniques and methods of risk assessment for decision-making control includes the following steps: 1) determination of the conditional regional level of the background prevalence rate as the unit of regional type of population health, shaped by regional climatic and geographic and other features of the environmental conditions; 2) detection of the epidemiological relative risk of the morbidity rate and mass non-infectious diseases; 3) determination of the wave-like character of the dynamics of the risk for mass non-infectious morbidity rate of the population and the adaptation process shaping it in the territories; 4) separating the leading mass non-communicable diseases, especially shaping peculiarities of local variants of population health in the special industrial and non-industrial areas; 5) determination of the degree of stringency of medical and environmental situation (or ecological trouble) in the studied area, with local variants of population health; 6) a forecast of the expected trends in the dynamics of the risk for mass non-infectious prevalence rate; 7) justification of the main directions of the development of medical and environmental preventive measures on the reduction of mass non-infectious diseases and the improvement of the quality of health of the population in the studied areas. The given methodical complex will allow to more effectively solve problems of prevention of mass non-infectious prevalence of the population and improve health and environmental conditions in the study area based on public health monitoring data.

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Abstract: An assessment of the dynamics of medical and environmental situation in the industrialized cities of Irkutsk region on the relative risks of morbidity in children and adolescents due to changes in environmental loads in recent years (air pollution levels) was performed. The data presented indicate to environmental troubles in territories of considered industrial cities over the past two decades due to the high degree of intensity of medical and environmental situation on levels of morbidity (accordingly to medical aid appealability rate) of child and adolescent population.