

## **Anthropogenic Atmospheric Air and Children's Health**

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**Abstract:** Anthropogenic environmental pollution has a pronounced effect on the formation of population health, especially in connection with changes in socio-economic conditions. Recent studies suggest that the polluted environment is one of the important factors determining the changes in the health status of the urban population.

**Keywords:** anthropogenic pollution, health indicators, diseases of children.

As is known, the main factors that determine the likelihood of developing human health disorders include lifestyle and behavior, the environment (including the industrial and ecosystem environment), genetic factors, and quality of life. According to some data, the contribution of lifestyle to the formation of health indicators is about 50%, the environment - 25-30%, heredity - 20-25%, healthcare - 5%, and the volume of labor losses and economic damage from environmentally caused diseases represents significant values, calculated annually hundreds of billions of dollars [2,9,13].

Anthropogenic environmental pollution has a pronounced impact on the formation of population health, especially in connection with changes in socio-economic conditions. Therefore, the problem of the adverse effects of environmental factors on health is becoming increasingly relevant every year. The contribution of anthropogenic factors to the formation of health deviations ranges from 10 to 57% [1,7,8,14].

According to average WHO data, the main (primary) risk factors affecting public health include, in frequency, various types of environmental pollution (human environment), the share of which in the totality of all factors is about 20%. However, the value of this indicator in different countries can vary quite widely. Currently, in all highly developed countries, the intensive development of industry and transport leads to a constant increase in human environmental pollution, which negatively affects the state of human health. One of the most powerful sources of air pollution is chemical emissions from industrial enterprises, as well as vehicle exhaust gases, containing more than 200 chemical compounds.

Research in recent years suggests that the polluted environment is one of the important factors determining changes in the health status of the urban population. All types of pathology are much more common in environmentally polluted areas; out of 19 classes of diseases, 53% of nosological forms of diseases in children show a reliable connection with the content of pollutants in the environment.

It has been established that in areas with high levels of air pollution there is a decrease in the number of healthy children by 2.9 times, an increase in the number of children with functional abnormalities - by 2.4 times, with chronic pathology - by 2 times, with a decrease in harmony and level of physical development - 2.1 and 2.6 times, respectively. The greatest contribution of

atmospheric air pollution in the group of respiratory diseases was observed in children aged 1 to 11 years, the smallest - in children under 1 year of age and in 12-14 years of age [7,14].

It is known that allergic diseases are among the leading ecopathological conditions. Currently, in most developed countries of the world there is an increase in the frequency of allergic diseases. In most developed countries, allergic diseases are among the leading diseases in terms of prevalence. The growth rate of their frequency among children is much higher than among adults [3,4,10].

Children are the most sensitive and objective model when studying the impact of chemical environmental pollution on public health due to the peculiarities of the metabolic processes of a growing organism, the absence of the influence of professional factors and bad habits, and the relatively high level of medical care.

Atmospheric air pollution by various components of chemical or biological origin poses a danger primarily to the health of children and adolescents. However, in addition to air pollution, a growing organism is affected by a large number of other factors, which often enhance the negative effect [5,6,7,12]. Unfavorable environmental factors worsen the main indicators of physical development [3,13,14,15] and cause an increase in the number of children with disharmonious development [2]. Despite children's hypersensitivity to environmental factors, not all children exposed to unfavorable environmental conditions develop environmentally-related health disorders. This can be explained by a hereditary factor: children react differently to exposure to pollutants—some experience hypersensitivity, while others have no or partial reaction.

However, it must be taken into account that the environmental factor affects the entire population as a whole or large groups of it and undoubtedly enhances the effect of other causal risk factors that may occur in an individual. Layered on top of other risk factors, environmental pollution can have a permissive effect in the development of a number of pathological conditions during a certain period of a child's life. Due to the deterioration of demographic indicators, the increase in morbidity, disability, instability in the socio-economic sphere, and the falling standard of living of the population, this represents a major challenge both medically and socially [6,10,15]. Diseases associated or caused by exposure to environmental factors are primarily congenital malformations, allergic diseases and chronic neuropsychiatric diseases. The impact of environmental factors determines the atypical course of known diseases in children, the rejuvenation of a number of nosological forms (peptic ulcer, hypertension, diabetes mellitus, coronary heart disease).

Anthropogenic environmental pollution has a pronounced effect on the formation of the population health of the children's population. To successfully prevent deterioration in the health of the children's population, it is necessary to improve in every possible way the quality of atmospheric air and drinking water consumed by children.

Thus, an analysis of the scientific literature convincingly shows that the conditions and lifestyle of urban children are currently characterized by a number of negative aspects such as anthropogenic pollution of the environment, disturbances in the nutritional structure, low levels of physical activity and high psycho-emotional stress. Numerous scientific studies have established the negative impact of each of the above factors on the health of children, however, the influence of anthropogenic pollution on the child's body, taking into account the conditions and lifestyle of the family, has practically not been studied. All this predetermines the need to study the health of children experiencing the adverse effects of anthropogenic atmospheric pollution in combination with lifestyle factors associated with large cities.

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