Turkish Archives of Pediatrics

EDITORIAL
DOI: 10.5152/TurkArchPediatr.2023.231206

Affection of Pollution of Environment and Climatic Changes to the Child's Health

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Healthy growth and development of a child is related with living within healthy environment. Environmental factors in childhood period shape health and behavior throughout life. During growth and development, which is a dynamic process, age-appropriate differences in biological, behavioral, metabolic, toxic substance absorption of the child's body make children very sensitive to environmental factors. During such critical development periods, negative exposure to environmental factors can disrupt developmental processes at the molecular, cellular, organ system and organismal levels. Indicator of ecological well-being is considered as children's health and prosperous lifestyle.[1] By considering that a 6-month-old baby drinks 7 times more water, eats 3-4 times more food up to the age of 5, the number of breaths of infants is 2 times higher than that of an adult, 90% of polluted air is taken in through the mouth, in summary, children are affected by many harmful factors, and these factors negatively affect their health as a source of potential danger for the child's body.

Child's body, by differing from adult's one, are more sensitive to the affection of unfavorable environmental factors. Along with traditional environmental factors, pollution of air and changing climatic factors have an increasingly damaging effect on children's health and general development. Studies show that, air pollution caused the death of 940.000 children in 2016 and 2/3 of them were children up to 5 years old. 92% of children's death caused by air pollution were in low- and middle-income states.[2]

Unfavourable ecological condition in fact, damages the health of children, their sensitive organisms are poisoned by toxins and heavy metals in atmosphere. Such ecological environment forms hyperactivity in children and such pathological condition is most cases causes the growing of development pathologies. Mehri and other employees analysis of 5 studies including 1779 cases demonstrated an association between exposure to pesticides, PSBs, and ASD during pregnancy.[3]

Studies concerning the affection of pesticides to the health and development of child shows that it causes microcephaly, thinning of the cortex, a decrease in IQ values, and a negative effect on psychomotor mental development, and its connection with ADHD.[4,5]

Nowadays, air pollution turned into one of the enormous ecological problems which is on the top of global health risks. According to conclusion of experts, children who live near crowded and busy roads are at high risk of developing bronchial asthma.[6] The start of the steep increase in asthma, atopic dermatitis, and allergic rhinitis dates to the 1960s, whereas a second wave with an increase in eosinophilic gastrointestinal disease, food allergy, and drug hypersensitivity started after the 2000s. These diseases also started to appear more with neuropsychiatric and autoimmune conditions during the last few decades. Many theories have been proposed to explain this outbreak. The hygiene hypothesis was consolidated by "old friends" and biodiversity, although some gaps remained unresolved. The introduction of the epithelial barrier hypothesis gave us a new perspective to explain the effects of industrialization without environment control and health concerns creeping into our daily lives.[7]

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Received: June 12, 2023
Accepted: June 12, 2023
Publication Date: June 23, 2023

Cite this article as: Bayramova N. Affection of pollution of environment and climatic changes to the child's health. *Turk Arch Pediatr.* 2023;58(4):356-357.

On the basis of WHO data, at least 1 from per 4 deaths in the children up to 5 age is related with environmental factors. Indoor and outdoor air pollution, dirty water, inadequate health services and hygienic conditions, environmental risks cause the death of approximately 1.7 million of children up to 5 ages per year.

The 2022 report of the Intergovernmental Panel on Climate Change (IPCC) paints a dark picture of the future of life on earth, characterised by ecosystem collapse, species extinction, and climate hazards such as heatwaves and floods.[8] These are all linked to physical and mental health problems, with direct and indirect consequences of increased morbidity and mortality. To avoid these catastrophic health effects across all regions of the globe, there is broad agreement—as 231 health journals argued together in 2021—that the rise in global temperature must be limited to less than 1.5^{0}C compared with pre-industrial levels.[9]

As a result, we must not forget the disease-environment connection when making a diagnosis, we must take steps to zero out our carbon footprint, if possible, reduce natural gas consumption by using renewable energy sources such as solar and wind energy, increase our tree planting activities, throw trash in recycling bins, identify biomarkers of toxic substances, to regulate substances, warn manufacturers, educate families and pediatricians.

Declaration of Interests: The author has no conflict of interest to declare.

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