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THE IMPACT OF AIR POLLUTION ON OUR HEALTH

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This article analyzes the negative effects of air pollution on the human body based on scientific sources. The effects of harmful substances found in atmospheric air — dust particles, nitrogen oxides, sulfur dioxide, carbon monoxide, and other toxic compounds — on human health are highlighted. In particular, the risks of respiratory diseases, cardiovascular problems, weakened immune systems, and chronic diseases caused by long-term exposure are discussed. It also highlights the high sensitivity of children, the elderly, and people with chronic diseases to air pollution. The article also discusses the urgency of the problem, its global and local consequences, and recommendations for air protection.

Introduction. Currently, air pollution is one of the most pressing environmental issues. As a result of industrial development, the increase in the number of vehicles, and the acceleration of urbanization processes, the natural composition of atmospheric air is changing significantly. This has a direct and indirect negative impact on human health. Harmful

substances present in the air, particularly dust particles, gaseous pollutants, and chemical compounds, enter the body through the respiratory tract and cause various diseases. The respiratory system, cardiovascular system, and immune system are particularly affected by this process. Scientific studies conducted in recent years have shown an increase in air pollution-related diseases and deaths. This article analyzes the effects of air pollution on the human body, its main sources and consequences, and presents scientifically based opinions on ways to reduce this problem.

Main part Air pollution has a multifaceted and complex effect on the human body. Harmful substances released into atmospheric air include industrial emissions, automobile gases, fuel combustion products, and various chemical compounds. Among these substances, particularly fine particulate matter (PM_{2.5} and PM₁₀), nitrogen oxides, sulfur dioxide, and carbon monoxide pose a significant risk to human health. First of all, air pollution directly affects the respiratory system. Fine dust particles penetrate deep into the lungs, causing diseases such as bronchitis, asthma, and pneumonia, or exacerbating existing diseases. Breathing polluted air over a long period of time leads to reduced lung function and the development of chronic diseases. In addition, polluted air also has a negative impact on the cardiovascular system. Harmful substances enter the circulatory system, causing blood vessels to narrow, blood pressure to rise, and an increased risk of heart attacks. Studies show that people living in areas with poor air quality are more likely to develop cardiovascular disease. Air pollution also leads to a weakening of the immune system. The protective mechanisms in the body are weakened by the action of harmful substances, and a person becomes more sensitive to various infections. Children, in particular, are more susceptible to polluted air because their bodies are not yet fully developed. The elderly and people with chronic diseases are also at high risk. Also, the long-term effects of air pollution can also cause the development of oncological diseases. Some harmful substances are carcinogenic in nature, which leads to uncontrolled cell proliferation in the body. Overall, air pollution is a serious threat to human health, and maintaining ecological balance, reducing emissions, and using clean energy sources are important for reducing its impact.

Conclusion In conclusion, air pollution is one of the most important environmental problems that has a significant negative impact on human health. Harmful substances present in the atmospheric air deliver damage to the respiratory, cardiovascular and immune systems, causing the origin of various diseases and their exacerbation. Especially children, the elderly and individuals with chronic diseases are considered more susceptible to this effect. Therefore, reducing air pollution, protecting the environment and increasing environmental

culture are some of the urgent tasks of today. Fresh air is an important factor in human health and the well-being of society, and it is every person's duty to preserve it

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