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THE IMPACT OF AIR POLLUTION ON OUR HEALTH

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ABSTRACT:

Air pollution is one of the most serious environmental problems affecting human health worldwide. This study aims to analyze the impact of air pollution on human health, particularly respiratory and cardiovascular systems. Data were collected from 60 participants using a questionnaire. The results show that individuals exposed to polluted air experince more health problems, including breathing difficulties and fatigue. The study emphasizes the need for effective measures to reduce air pollution.

Introduction: Air pollution is the presence of substances in the atmosphere that are harmful to the health of humans and other living things and to the climate. The presence of air pollutants such as gases (ammonia, carbon monoxide, sulfur dioxide, methane, chlorine and other toxic gases), various particulate matter (organic and inorganic) and biological molecules is one of the main causes of pollution. Air pollution can have a negative impact not

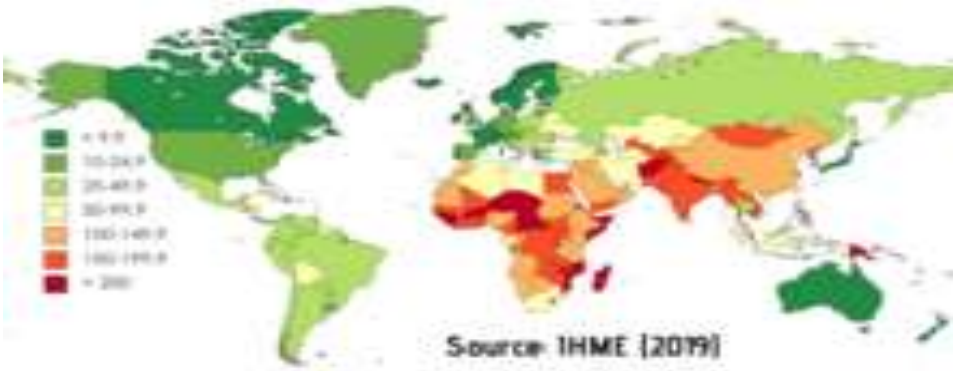
only on humans but also on all living things. For example, it causes acid rain through climate change, ozone layer depletion, habitat destruction or negative environmental impacts.

Air quality index for 2016 - light colors indicate poor air quality and high air pollution.

Air pollution leads to several health problems in humans. When a survey was conducted among several participants, it was found that the following diseases were observed:allergic diseases, respiratory infections, heart diseases, stroke, and lung cancer.

Methods

The study was based on the analysis of scientific literature on air pollution and its effects on human health. Relevant data were collected from scientific articles, textbooks, and international reports. In addition, a questionnaire survey was conducted among participants to assess common health symptoms related to air pollution. The collected data were analyzed using basic statistical methods.



Deaths due to air pollution per 100,000 population (IHEM, 2019)

Results and their analysis.

The effects mentioned above can be clearly understood through the following situation: Ground-level ozone, which is a component of smog, is formed when volatile organic compounds and nitrogen oxides react in sunlight. This irritates the respiratory system and worsens pre-existing conditions such as asthma. Nitrogen dioxide (NO_2), on the other hand, is produced by vehicles and industrial facilities. It contributes to the development of respiratory and lung diseases. People who have been breathing air polluted with sulfur oxides for a long time also have a predisposition to the existing respiratory system has been found to cause diseases.

It is said that in the most severe case, a person who breathes air polluted with carbon dioxide can die. Air pollutants such as benzene and formaldehyde are carcinogenic and cause lung cancer. Air pollution has been shown to negatively affect the central nervous system and cognitive functions and to promote neurodegenerative diseases such as Alzheimer's and Parkinson's, as well as lead to adverse birth outcomes during pregnancy, including low birth weight and delayed child development.

Discussion

According to 2014 estimates by the World Health Organization, air pollution causes about 7 million premature deaths worldwide each year. Research published in March 2019 indicated that this number could be around 8.8 million. A 2022 analysis concluded that air pollution caused 6.67 million premature deaths in 2019. Causes of death include cardiovascular disease, lung cancer, and lung infections. Urban air pollution causes 1.3 million deaths worldwide each year. In 2021, the World Health Organization estimated that outdoor air pollution caused 4.2 million premature deaths worldwide in 2016. According to data published in GeoHeath in 2022, eliminating fossil fuel-related emissions in the United States would prevent 46,900–59,400 premature deaths annually and generate $537–6388 billion in benefits in preventing diseases and deaths related to PM.2.5. India and China have the highest rates of death from air pollution in the region. According to the World Health Organization, India has a relatively high rate of asthma deaths. In China, air pollution is responsible for 500,000 deaths each year. Air pollution causes an estimated 430,000 to 800,000 premature deaths in Europe each year. The UK government has revealed that nitrogen dioxide causes 23,500 premature deaths in the UK each year. It is estimated that air pollution across the European Union can shorten life expectancy by almost nine months. A variety of strategies are being used to combat air pollution. These include:

-Switching to clean energy:

Switching to clean energy sources such as renewable energy and electric vehicles can significantly reduce air pollution and greenhouse gas emissions.

-Technological advances:

Advances in emission control technologies and cleaner industrial processes can help reduce pollutant emissions and improve air quality.

-Green spaces and urban development:

Creating green spaces, improving public transport and implementing effective urban planning can mitigate the effects of air pollution in cities and improve overall air quality.

Conclusion.

Ambient air pollution poses a serious threat to human health, affecting many body systems and increasing the risk of various diseases. Addressing this problem requires a comprehensive approach that includes government regulations, industry cooperation and individual responsibility. By introducing stricter standards, implementing cleaner technologies and raising public awareness, we aim to reduce the health risks associated with air pollution and create a healthier environment for all.

References

1. https//cyberleninka.ru/article/n/theimpactofairpollutiontoourhealth.
2. https//www.herald.kokaduni.uz/index.php/public_html/article/dowload/405/193.
3. Air quality, energy and health https://share.google/31KKWp9sCBkBvE5fD
4. World Health Organization (WHO). (2021). Air pollution and health.
5. World Health Diseases Control and Prevention (CDC). (2022). Air quality and health effects.
6. United Nations (UN).(2019). Global environmental report.