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Increasing pollution in summer puts children, women, elderly at risk

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By Kapil Kajal

The early summers could mean more exposure to pollution, experts say. Research studies say that air pollution is more in summers and warm weather can increase the pollution levels. The prevalence of five major pollutants (particulate matter or PM, ground-level ozone, oxides of carbon, sulphur dioxide and oxides of nitrogen) is high in summer.

A [study](#) by the National Center for Biotechnology Information found a relation between summer pollution and respiratory diseases where it established links between coughing and other respiratory symptoms during summers.

Akshay Heblikar, director of Eco-Watch (an environmental NGO), pointed out that one can observe and should address the two major pollutants, ozone and particulate matter, during summers.

He added that the level of oxides of nitrogen needs to be controlled since it reacts with other hydrocarbons and other chemicals in the presence of sunlight to form ozone, which once mixed with particulate matter in the atmosphere can give rise to summer haze, causing respiratory distress.

Heblikar mentioned that the chemical reactions involving nitrogen oxides, volatile organic compounds and sunlight help in the formation of ground-level ozone, and pointed out that it is highest during afternoon hours in summer when the influence of direct sunlight is the greatest, noting that higher temperatures lead to faster formation of ozone.

He highlighted that owing to the high pressure in the atmosphere, dissipation of pollutant is difficult. Children, women (more in pregnant women) and the elderly are at risk, he pointed out.

Increased consumption, increased pollution

According to a US-based [study](#), a 5-9% increase in air pollution-related deaths will be owing to the increases in power sector emissions from heat-driven building electricity demand.

Dr TV Ramachandra, a professor with the Centre for Ecological Sciences at the Indian Institute of Sciences (IISc), mentioned that the usage of air conditioners (AC) in the summers increases, and owing to the increased consumption of electricity, the thermal power plants release more pollutants.

He added that burning of coal has several health impacts like asthma, lung problems, heart diseases and cancer.

According to the World Health Organization, exposure to pollution can cause a host of diseases and disorders ranging from birth defects to diabetes in children.

Each year fires at the Turahalli Reserve Forest area in Hemmigepura ward in southern Bengaluru are reported.

Smoke, PM, ozone, oxides of carbon, sulphur dioxide and nitrogen oxides, which are harmful to the health, are the major pollutants released by forest fires, stated Dr Yellapa Reddy, the Governing Council Member of the Foundation for Ecological Security of India.

Apart from pollution, bacteria and fungus in the air during the summer season, further polluting the air. According to a [study](#) by Bangalore University, the pre-monsoon season which occurs between March to May records the worst levels of bacteria and fungus in the air.

Inhalation of bacterial aerosol or bioaerosols can cause airborne infections, hypersensitivity in the lungs, urinary tract infection, bacteremia, bacterial endocarditic, diverticulitis, and meningitis, the study added.

Dr Shashidhara Gangaiah, a paediatrician with the Center for Science Spirituality in Bengaluru, confirmed that he receives more number of patients from allergies, respiratory diseases, infections caused due to air pollution during summers.

Children and women are among the most vulnerable, he noted.

(Author is Bengaluru - based freelance writer and a member of 101Reporters.com, a pan-India network of grassroots reporters.)