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Editorial

Smog

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Smog is a kind of air pollution which is commonly thought to be a mixture of smoke and fog in the air. The word smog was first used in London during early 1950.[1] Chemical reaction of sunlight typically known as photochemical smog is produced in the environment by nitrogen oxide and natural volatile compounds. These compounds leave airborne debris and lower level ozone.[1] Mixture of air pollutants in the environment is the basic cause of forming smog and can also be described as a mixture of numerous gases (burnt fumes and fuels from cars and industry) along with dust, sand, smoke, pollen and water vapors.[2]

Smog is a yellowish or blackish hazy air that makes breathing difficult [3] and causes upper and lower respiratory tract ailments and cold and flu due to inflammation of the lung tissues resulting in chest pain, cough and irritation in eyes, while its environmental effects include poor visibility.[2] whole population of the smog area get affected but children, old people and those having cardiac and respiratory issues suffer the most.[3]

Lahore has been reporting smog since the past few years and has been listed among the top ten cities affected from smog according to Deutchewelle website.[4] Residents of Lahore experienced a dense blanket of smog that caused low visibility and respiratory and eye ailments in addition to other problems. Few deaths were also reported during this smog period in people who were already suffering from chronic obstructive pulmonary diseases (COPD) cases.

In past few years the phenomenon of smog has grown worse because of increasingly high polluted environment secondary to the establishment of large number of factories, heavy traffic, extraordinary construction work and unchecked cutting of trees due to urbanization.[5] In New Delhi, on the other hand main reason of smog is burning of crop waste by the farmers. As Lahore is situated very near to the Indian border therefore this could be an added reason for thicker smog in Lahore. Changes in the wind flow directions also retard the dispersal of foul clouds whose persistence pollute the environment and form smog.[6]

Smog reduced the visibility up to 20-25 meters in Lahore. It caused serious breathing ailments and eye irritation and infection in many people who were living or visiting the city resulting in increased patient load in hospitals and clinics. Most important sign and symptoms were burning eyes, heavy breathing, sneezing, wheezing and cough. Smog is also harmful for cardiovascular system. There are no safe levels of smog because even fine ozone particles (even in traces) are dangerous.[7] Ozone layer found higher in the atmosphere although protects from ultra violet rays but at ground levels it acts as a pollutant but its long-term high ground levels may damage the lung tissue permentantly.[8]

Smog is not an allergen but it causes asthma, lungs irritation and difficulty in breathing.

Usually symptomatic treatments suggested according to level of effect on lungs, throat, eyes and heart. Eye wash should be used in case of irritation. Preventive measures, however are of great importance. It may be divided into short term and long term prevention. Short term preventive measures include using face masks and glasses to protect eyes. Avoid exercise which deals with deep breathing however consider to exercise in smog free indoor air conditioned environment. Stay hydrated by taking fluids especially during exercise. Avoid outing and extracurricular activities and try to stay at home as much as possible. Schools may be closed for few days to protect children if needed. Air quality index should be measured to take adequate action in this regard. Doors and windows should be closed at more dense times.

Long term prevention from smog is of great importance. Plantation is very essential to control air pollution. Trees must be treated like trimming to grow new leafs as much as possible every year. Gas powered engines, oily paints and pesticides usage must be controlled to minimum level. Two stroke engines which use mobile oil with petrol must be banned. Factories should be pulled out of cities. Height of chimneys should be at highest level as pollutants dispersion at higher altitudes can reduce the impact of poisoned gases on surroundings. State support is also vital to cope with the issues relating to smog, in particular farmers should be provided with necessary modern mechanism of crop waste management. Strong political will is necessary for implementation of time bound program to strop burning of crop remnants.

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