

Air Pollution and its Effects on Global Health

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Outdoor air pollution is known to cause millions of deaths worldwide; it also increases the risk of respiratory and cardiovascular diseases [1]. In 2012, the WHO reported 3.7 million deaths attributable to ambient air pollution and 4.3 million deaths due to household air pollution. In new estimates, it reports that one in eight of all global deaths are due to air pollution. This figure more than doubles previous estimates and confirms that air pollution is now the world's largest single environmental health hazard [2].

Preventing or reducing air pollution can save millions of lives [2]. Two of the most harmful urban air pollutants are nitric oxide and coarse particulate matter. In cities with rows of tall buildings a unique urban habitat known as a "street-canyon" may develop trapping pollutants. Stagnant air lingers in street-canyons increasing the concentration of pollutants [1].

Four of the 10 worst-polluted cities in the world according to the WHO, are in Iran. The number one slot was the industrial city of Ahvaz, which had three times the concentration of pollutants as Beijing. Tehran, a metropolis of over 8 million people, although not in the top 10 polluted cities overall, checks-in at number 82 (of 1099), with roughly four times the concentration of polluting particles as smog-blighted Los Angeles [3]. During periods of inversion, schools are cancelled; the sick and elderly are told to stay home; and people are banned from driving [4].

Tehran's pollution was blamed on bumper-to-bumper traffic in a city wedged between two mountains trapping fumes. Pollution was exacerbated by domestic production and distribution of low-grade petrol (with alarmingly-high numbers of carcinogens and sulfur) when sanctions prevented

Iran from importing gasoline. In 2013, the Health Ministry announced that people are dying from what they inhale and that 4460 Tehran residents died in 2012 from air pollution and that patients who had visited Tehran hospitals with heart conditions had increased by 30%. [3,4] The Iranian Environment Protection Agency took action towards the protection of the natural environment. One of the most important was cessation of production of gasoline by petrochemical units, [5] and the decision to import gasoline with the highest international standards (Euro 4) when sanctions were lifted. Air pollution has decreased dramatically since the temporary lifting of sanctions in January 2014. Last year, Iran had 147 days during which air quality was substandard. Two years ago, this number stood at 217 days [6]. Further research on air pollution and advancements in automotive technology (i.e. electric cars and motorcycles) are expected to lower environmental pollutants in the near future as hybrid vehicles are being imported.

Conflict Interest

None of the authors have potential conflict of interest.

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