

## UNVEILING THE SILENT THREAT: AIR POLLUTION AND SMOG IN RESOURCE-LIMITED SETTINGS

Air pollution and smog are pervasive threats that have serious impacts on public health around the world. This editorial delves the scope of this threat and an assessment of the problem, with a focus on resource-limited countries like Pakistan. Health professionals need to be aware of the seriousness of the problem in order to contribute effectively to prevention strategies.

A Complex mixture of particulate matter, nitrogen dioxide (NO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), ozone (O<sub>3</sub>), and carbon monoxide (CO) encompasses this variant of pollution. Pollutant levels can be determined using measurement tools like air quality monitoring stations and satellite technology which can provide real time data but in resource scarce country like ours, cost effective monitoring is crucial.

Anthropogenic activities like industrial emissions, vehicular exhaust, and biomass burning are the deep roots of the causative phenomenon. A portmanteau of smoke and fog, the smog is the synergistic product of all these activities particularly in the densely populated regions. The intricate interplay of pollutants poses unique challenges for healthcare professionals in understanding their diverse health implications and making the prevention difficult.

Air pollution and smog have been linked to a myriad of health problems. The spectrum includes respiratory diseases, cardiovascular disorders, and adverse pregnancy outcomes. Children and the elderly are particularly vulnerable population in resource-limited countries like Pakistan. Its impact can be imagined from the fact that air pollution alone is thought to cut the life span of every Pakistani by four years. The icing on top is the strained healthcare infrastructures which has to deal with the burden of preventable diseases associated with air pollution at an alarming level.

Karachi, the hub of Pakistan for its industrial value and Lahore which is no less are both hotspots for this pollution. Peshawar is also included in the top ten most air polluted cities of the world. The smog experienced in this belt is a health challenge persistently contributing to the worsening of the status.

Implementing and enforcing stringent emission standards, promoting public awareness, and investing in green technologies are essential steps when we talk about the solutions for tackling this issue. The realization of this being a national cause, will bring the authoritative bodies to collaborate and brainstorm for the practical solutions and hence the brighter tomorrow.

Government bodies hold a strong ground when it comes to policy formulation and enforcement for social issues. Another stake holder which has to be highlighted is the industrial sector which have to agree to adapt eco-friendly pathways. The health sector would obviously go hands in hands for raising awareness regarding its health implications and preventative strategies. All of us together can ensure public participation for accepting the change and become the strongest link in reducing individual carbon foot prints.

Remedial Measures to manage this menace can be stratified as:

1. Regulatory Measures: Stringent regulations on industrial emissions and vehicular standards.
2. Promotion of Green Technologies: Incentivizing and adopting renewable energy sources.
3. Public Awareness Campaigns: Educating the public on the health hazards of this silent killer and preventive measures.
4. Investment in Healthcare Infrastructure: Strengthening healthcare facilities to cope with the rising health burden particularly for the preventable causes.

The battle against air pollution and smog has to be a joint venture of all stakeholders. The role of advocacy, prevention and mitigation has to be played well by the front liner, the health care sectors. For a sustainable future, we need to review our priorities and focus to pave the way for our generations to follow.

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