Letter to the Editor

The impact of atmospheric pollution on vitamin D status

Madam, air pollution, an emerging environmental issue around the globe, has been attributed to cause 2.4 million deaths yearly[1] owing to its adverse health effects such as, cardiopulmonary diseases, allergies and inflammations. Data from Pakistan suggests high levels of air pollution in major cities of Pakistan, with Karachi ranking as the most polluted mega-city in terms of total suspended particles (TSP) and the fourth most polluted mega-city in the world in terms of multi-pollutant index.[2]

Atmospheric pollution consists of particulate-matters, ozone, carbon-monoxide, sulphurdioxide, etc; ozone adsorbing and reducing effective UVB levels, hence increasing the risk of vitamin D deficiency (VDD). Studies from India[3] and west have shown similar trend of lower serum vitamin D levels in individuals residing in high polluted areas as compared to those in lesser polluted areas.

This finding is of immense significance since Vitamin-D plays a key role in enhancing immune system, fighting cancers, diabetes control, and bone development[4] in the body. Sunlight is the main source of vitamin D; therefore, people who do not receive adequate sunlight might be at higher risk of developing VDD. Studies done in our country have revealed VDD prevalence of 70% in healthy population of Karachi and 48-58% in hospitalized patients.[5]

We can, therefore, imply that air pollution might be playing a role in VDD, in our country, along with other factors, such as high melanin, clothing, pardah, inadequate sun exposure. Awareness among the general population in this regard and atmospheric pollution control measures need to be implemented in order to safeguard general health of people living in polluted areas.

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