A perspective on trends in air pollution attributed disease burden in India

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In a recently published paper, Kumar and colleagues[1] explored the status and trends in air pollution attributed to disease burden (APADB) concerning economic growth and its direct and indirect measures for each state in India. We take this opportunity to discuss the explanations for some of the trends reported in the study.

Kumar and colleagues[1] reported a negative association of vehicle and industrial growth with APADB. It is a well-established fact that vehicular and industrial emissions are major determinants of air pollution and hence should ideally show a positive association with APADB. The authors' proposition of strict enforcement of motor engines (less CO_2) and factories adhering to regulations for negative association with APADB appears sceptical. The supporting reference cited by the authors for strict reinforcement of motor engines belongs to the United Kingdom and may not be applicable to the Indian context.[2] Moreover, the small-scale factories' adhering to emission regulations is questionable due to the non-availability of the relevant data in the literature. Between 1990 and 2020, air quality data indicated the highest rise in CO_2 emissions in India (578.5 to 2441.8 million tons), which also contradicts the authors' reasoning for the negative association.[3] Because of the plasticity of human physiology, the gradual adaptation to changing environments (air pollution) at the molecular level should be considered for the negative association with the APADB. We agree that a drop in APADB would lead to progress in economic development, and the growing market for electrical vehicles would make a significant difference in the future.

Kumar and colleagues[1] reported intriguing positive association for ambient particulate matter pollution disease burden with economic growth. Since economic growth implies more vehicles, industry production, and resource exploitation, it is associated with a rise in air pollution. This contradicts the authors' previous argument on the negative association between increasing vehicle registration and functioning industries with APADB. The two major incidences that have impacted the economic growth of India are demonetisation in 2016 and the introduction of Goods and Services Tax (GST) in 2017.[4] Since they happened during the assessment period of the study, its cognisance should have been taken into consideration. In future studies, even the COVID-19 pandemic needs to be considered due to its major impact on the economy and air pollution in India.

Contributors

S.C.S. and G.S.S. wrote the manuscript, edited it, and approved the final version. Both authors have equal contribution in preparing the manuscript.

Declaration of interests

None.

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