

Editorial

Air pollution and our lung disease patients

Paulo Saldiva

In February of 1953, in the *Lancet*, Logan published a classical article in which he reported the increased mortality in London in December of 1952, during which there was an event of intense air pollutant concentrations.⁽¹⁾ His article outlined the first definition of air quality standards. In the late 1980s, Pope et al. published a seminal article in which they suggested that the air quality standards recommended might not suffice to protect the health of the most susceptible segments of the population, such as the very young and the elderly, as well as individuals who suffer from cardiovascular diseases.⁽²⁾ In 2002, a publication in the *Journal of the American Medical Association* demonstrated that chronic exposure to air pollutants reduces life expectancy significantly due to an excessive number of cases of lung cancer, chronic obstructive pulmonary disease and cardiovascular diseases.⁽³⁾ At the end of 2006, the World Health Organization recommended more strict air quality standards, recognizing that air pollution was responsible for over two million deaths per year worldwide.

Although environmental laws in Brazil are quite modern regarding the preservation of remote areas, they are antiquated in terms of preserving and improving air quality in large urban centers. Brazilian air quality standards are based on knowledge available in the early 1990s, when less than 10% of the studies on air pollution and human health had been published. It is as though there is a 'disconnect' between human health and environmental policy. Inasmuch as I recognize that the preservation of our natural heritage is vital, it seems inconceivable to me that that the issue of human health is not a priority as well. Various studies conducted in Brazil have linked air pollution to excessive morbidity and mortality. In this issue of the *Brazilian Journal of Pulmonology*, Mascarenhas et al.⁽⁴⁾ present findings that corroborate the association between high levels of air pollution caused by biomass burning and an increase in the number of respiratory disease-related emergency room visits in the city of Rio Branco, located in the state of Acre. Simultaneously, there has been an unprecedented increase in the size of the Brazilian automotive fleet, a lack of consistent policies regarding the improvement of collective transporta-

tion and a lack of attempts to improve the quality of fuel, as well as the proliferation of sugar cane field burn-offs in various parts of the country. I believe it to be our duty to call attention to the consequences that this situation has for human health and to attempt to create a 'climate' in which decisions on issues such as air pollutant emissions will take the health of the population into consideration.

The manifestations of the adverse effects of air pollutants are more intense in children and in the elderly, as well as in individuals who suffer from chronic respiratory and cardiovascular diseases, especially in the most disadvantaged socioeconomic segments. This is the sort of situation in which those who suffer the most are precisely those who contribute the least to the problem (pollutant emissions), creating a context of environmental injustice, for which there is no ethical or moral justification.

I hereby invite pulmonologists to reflect on this issue, which has such a direct effect on the lives of their patients. Only by soliciting the joint efforts of those who know the needs of patients with respiratory diseases regarding their right to a dignified life can we champion for those who are unable to defend themselves.

Paulo Saldiva

Full Professor in the Pathology Department of the University of São Paulo School of Medicine

References

1. Logan WP. Mortality in the London fog incident, 1952. *Lancet*. 1953;1(7):336-8.
2. Pope CA 3rd. Respiratory disease associated with community air pollution and a steel mill, Utah Valley. *Am J Public Health*. 1989;79(5):623-8.
3. Pope CA 3rd, Burnett RT, Thun MJ, Calle EE, Krewski D, Ito K, et al. Lung cancer, cardiopulmonary mortality, and long term exposure to fine particulate air pollution. *JAMA*. 2002;287(9):1132-41.
4. Mascarenhas MD, Vieira LC, Lanzieri TM, Leal AP, Duarte AF, Hatch DL. Anthropogenic air pollution and respiratory disease-related emergency room visits in Rio Branco, Brazil - September, 2005. *J Bras Pneumol*. 2008;34(1):42-46.