

The rise of a non-communicable disease epidemic

Lawrence Grouse

University of Washington School of Medicine, Gig Harbor, WA, USA

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Prof. Bhome's review of COPD in India provides important information and perspective about the worsening global COPD epidemic (1). The findings in India - increasing prevalence, DALYs lost, and mortality resulting from COPD, including a dramatic rise of COPD in rural, lower-income communities - combine with broader trends such as the increasing recognition of biomass and other fuel use as common and powerful risk factors for COPD; the urgent need for early COPD diagnosis to combat the progression of the disease; and links between COPD and pollution, fuel use, and global warming. Taken together, these pieces of evidence should serve as a red flag warning that a worldwide disease epidemic is underway, whose vectors are not micro-organisms but global human commerce and socio-economic practices.

The data Prof. Bhome presents are mainly epidemiologic findings concerning COPD in different regions in India and are often incomplete, yet the overall conclusions about COPD that emerge are convincing. One reason for this is that the available data from India align closely with more extensive epidemiologic and public health information about COPD in China that has recently been published (2,3). These similar findings concerning COPD from the world's two most populous nations deliver an urgent message to all countries to carry out epidemiological studies and other COPD research to understand the nature of this global epidemic and to take action to help COPD patients and others at risk of the disease. It is not a coincidence that COPD is rampant in these two countries, both of which have been undergoing massive industrialization in recent decades.

The data presented from WHO India (4), which suggest that COPD care using Indian clinical practice guidelines can reduce the cost of COPD care by 80-90%, are not very credible. Unlikely assumptions are made in this analysis, and these assumptions are then extrapolated for the whole country. However, as Prof. Bhome concludes, even if the specific number does not hold up, there is good reason to accept the concept that COPD care costs can be substantially reduced by such measures as early diagnosis, smoking cessation efforts and reduction of other toxic inhalations, and focusing on inexpensive, effective therapies that can improve patients' lung function and quality of life and also reduce COPD exacerbations and hospitalizations.

Prof. Bhome's review of Indian studies of COPD in non-smokers and in users of biomass and other fuels documents the importance of air pollution from these fuels and other sources in the etiology of COPD. These data add to the studies conducted by Prof. Nanshan Zhong and his colleagues in China in collaboration with Prof. Sonia Buist and the BOLD (Burden of Lung Disease) Initiative (5), which found similar results in China and elsewhere in the world (6). However, many medical groups continue to focus entirely on smoking cessation to try to prevent

Corresponding to: Lawrence Grouse, MD, PhD. 8316 86th Ave. NW, Gig Harbor, WA 98332, USA. Email: lgrouse@u.washington.edu.

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COPD. It is true that for many years, the tobacco industry spent enormous amounts of money to try to refute or confuse the facts relating to the many adverse health consequences of tobacco use (7), and the reality of these effects is incontrovertible, based on a huge body of scientific evidence (8). Still, other documented causes and risk factors for COPD need to be better understood and confronted as well.

Similarly, many large corporations whose manufacturing and products generate toxic auto, airplane, energy generation, and industrial emissions attempt to portray themselves as environmentally conscious, and would also like people to believe that COPD is only caused by smoking. However, if we are to successfully combat COPD, we need to understand all the causes of the disease and act to prevent COPD as well as to diagnose COPD early in its course. We should focus on reducing these toxic emissions that are so damaging to the earth's ecology. For example, the Surya Project in India (9), which attempts to use solar energy and other clean technologies to reduce indoor and outdoor pollution caused by biomass and other polluting fuels, is an example of important environmental protection efforts that may be able to combat the COPD epidemic. Hopefully, as we more fully understand the etiology of COPD, we will be able to expand such efforts.

Physicians tend to think of diseases as separate entities, when they are often a part of groups of diseases resulting from root causes such as pollution or obesity, or may be co-morbidities of a disease like COPD, such as lung cancer, depression, and heart failure. We should not lose sight of the huge burden these diseases place on patients. I believe that we should see both communicable and non-communicable diseases as proxies for human misery, so that we do not lose sight of the root causes that need to be addressed in order to maximally benefit people world-wide. A non-communicable disease epidemic like COPD reflects toxic pollution caused by human commerce and society.

This makes COPD a proxy for the misery of all life on earth since pollution affects not only humans but all species on the planet.

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