

## INTRODUCION

Air pollution is the contamination of the air by substances or pollutants in quantities which may be harmful or injurious to human health or welfare, animal or life (*American Thoracic Society, 2000*).

Atmospheric particulate air pollution arises from a variety of sources, both natural (e.g., sea spray, windblown dust) and synthetic sources (e.g., power plants, motor vehicles). Particulate material that enters the atmosphere can be primary (particles emitted directly) and secondary (particles that from by chemical reactions that involve gas-phase precursors, such as sulfur dioxide and oxides of nitrogen) (*Ayres et al., 1972*).

Many pollutants, from both man-made and natural sources, can be found in outdoor air. Some naturally occurring pollutants in outdoor air are well documented as causing or exacerbating pulmonary diseases (e.g., pollens and fungi) (*Frank et al., 1969*).

Whereas most attention has been given to pollutants present in outdoor air, it is now apparent that elevated concentrations of airborne contaminants are common inside homes, public building, and other indoor microenvironments. The major source of indoor pollution is from combustion, particularly second hand smoke (SHS) exposure, gas stove use, and wood burning in stoves and fireplaces. Kerosene space heaters are also an important source of indoor air pollution (*Lambert and Samet, 1996*).

Indoor air pollution can also exacerbate chronic respiratory diseases (e.g., house dust mite antigen and asthma in house-dust mite-allergic persons). More subtle effects have become of increasing concern as indoor air pollution can adversely affect comfort and increase risk for future disease;

consequently, even the perception of exposure or indoor pollutants may adversely affect well-being. Radon and asbestos, for example, are respiratory carcinogens, which are presumed to increase risk of lung cancer (*Delfino et al., 1998*).

The spectrum of adverse effects of air pollution is broad, ranging from the consequences of acute and dramatic exposures, which may cause death, to far more subtle and chronic effects of air pollution is broad, ranging from the consequences of acute and dramatic exposures, which may cause death, to far more subtle and chronic effects on disease risk and well-being. This spectrum has been conceptualized as a pyramid with mortality at its tip and an increasingly common set of morbidities as the base (*Bascom et al., 1996*).

Air pollution contributes to various respiratory diseases as asthma, emphysema, chronic bronchitis, lung infections and bronchogenic carcinoma. It also leads to cardiovascular illness such as hypertension and coronary heart diseases (*Ian and Campbell, 2000*).

Controlling the health effects of indoor and outdoor air pollution requires strategies oriented toward populations and toward individual patients. Clinicians can make practical recommendations to their patients in order to reduce risk for diseases and for exacerbation of established diseases. Clinicians may serve as consultants or as advocates in seeking to reduce the effects of indoor and outdoor air pollutants through population-oriented control approaches (*Rennard and Danghton, 1998*).