

Burden of COPD and Chronic Diseases

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Over the past 10 years, a considerable effort has been made to increase awareness of all facets regarding chronic obstructive pulmonary disease (COPD). Several international initiatives have developed major concerted efforts along these premises, such as GOLD and those of the most prestigious international societies in Europe, North and South America and the Asian-Pacific region.

COPD has been identified as a rapidly growing worldwide health problem associated with long-term exposure to toxic gases and particles, most often related to cigarette smoking, heavily challenging our past and current millenniums.

COPD is a common, costly and preventable disease that has substantial implications for the health of mankind.

Worldwide, recent increases in COPD deaths are likely to continue. The Global Burden of Disease Study has

projected COPD mortality rates from 1990 to 2020 and estimates that COPD will account for over 6 million deaths per year in 2020, which will move COPD from the sixth- to the third-leading cause of death worldwide over this period. COPD mortality trends generally track several decades behind smoking trends.

Trends in age-standardized death rates for the six leading causes of death in the United States from 1970 to 2002 indicates that COPD mortality increased as compared to the decreased mortality from several of these chronic conditions over that period. A recent analysis of mortality trends in the USA from 1979-1993 showed that among 31 million death certificates, 8% had a diagnosis of obstructive lung disease (OLD). However, only 43% of the death certificates listing OLD had defined it as the primary underlying disease. Death rates for COPD in Canada, in both men and women, have also been

increasing since 1997. In Europe, however, the trends are different, with decreasing mortality from COPD already being seen in many countries.

In 1990, the WHO estimated the standardized mortality rate of COPD to be 50 per 100,000 in males and 20 per 100,000 in females in European countries. Thus, approximately 200,000-300,000 people die each year in Europe because of COPD. According to the WHO, in 1997, COPD was the cause of death in 4.1% of males and 2.4% of females in Europe. There has been a striking increase in the mortality trends for COPD among females. There is no obvious reason however for the difference between trends in mortality rates over time in both North America and Europe, although presumably factors such as awareness, changing terminology, and diagnostic and potential gender biases contribute to these differences.

The WHO has also made worldwide estimates of mortality rates for COPD. They estimated that age-specific mortality rates for COPD were considerably higher in China than in countries with established market economies. The death rates for COPD in China were also higher than in six other global health regions being countries with formerly socialist economies: Sub-Saharan Africa, India, Latin America and the Caribbean, the Middle East, and other Asian countries. In low- and middle-income countries, the estimated age-stratified death rates for chronic diseases, namely cardiovascular disorders, cancer, chronic respiratory diseases, and diabetes, in 2005 were 54% higher for men and 86% higher for women than those for the same respective genders in high-income countries. In low- and middle-income countries, the population growth and aging will lead to a substantial increased number of

deaths for chronic diseases globally, with a projection of an 18% increase between 2006 and 2015.

All in all it is remarkable that over a short period of time there has been a substantial decline in death rates for the major causes of death in most European countries, but not for COPD. In contrast to cardiovascular mortality rates, it appears that COPD rates are relatively insensitive to intermittent or short-term smoking cessation campaigns.