LUNG CANCER

Lung cancer remains the most commonly diagnosed cancer and the leading cause of cancer death worldwide because of inadequate tobacco control policies.

Globally, there were an estimated 2.1 million lung cancer cases and 1.8 million deaths in 2018. Incidence and mortality rates vary 50-fold between regions. The variation is similarly large across countries. The highest incidence rates among men are in Europe, particularly in Eastern European countries such as Hungary (77 cases per 100,000 male population) as well as Western Europe (80 cases per 100,000 male population), followed by other European countries, Northern America, Australia, and New Zealand. In general, the geographic patterns of lung cancer mortality are quite similar to those of incidence due to the relatively slow progress of the disease after diagnosis.

Historically, lung cancer mortality rates have been higher among males than females due to an earlier uptake of smoking in large numbers. More recently, reports have noted a convergence in incidence and mortality rates between young men and women in Europe, North America, and Australia, due to a larger decrease in rates in men and a substantial rise (or slower decline) in women who acquired the smoking habit later than men.

In Asia, Latin America, and Africa, however, the lung cancer burden among men still largely exceeds that of women at all ages. In the last few decades, mortality rates among men in these regions have started to decline, however, with rates among women often remaining static.

In most parts of the world, tobacco use is the main cause of lung cancer, although other causes can be particularly important in selected countries. Other established risk factors include air pollution, radon, and several occupational agents (see Off, Environmental Pollutants and Occupational Exposure). However, reducing tobacco smoking alone could prevent the majority of lung cancers. Screening for detection of the disease at an earlier stage for long-term heavy current and former smokers is available, but wide dissemination of the procedure is unlikely in the short term, even in high-income countries, because of the need for a more advanced and coordinated healthcare system.

The tobacco epidemic is characterized by an increase in uptake of smoking followed by an increase in lung cancer mortality rates a few decades later.

Although tobacco remains the most important risk factor for lung cancer, other factors such as air pollution are significant in some countries.

FIGURE 11.2 Lung cancer incidence and mortality rates, 2018

FIGURE 11.3 Smoking and lung cancer mortality rate trends in men and women, United States

FIGURE 11.4 Converging lung cancer mortality rates among males and females, select high-income countries, 1952–2005, age-standardized rate (world) per 100,000, all ages

FIGURE 11.5 Lung cancer-related to tobacco smoking and air pollution in China and France

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