

# The effects of tobacco use on health

## The toxins in tobacco

Tobacco smoke contains tar, carbon monoxide, nicotine and thousands of other chemicals, many of which are toxic, addictive, carcinogenic (cancer-causing) and damaging to the coronary arteries that supply the heart.

Most of the tar remains in the lungs and can cause cancer, especially lung cancer. Carbon monoxide is poisonous and reduces the ability of blood cells to carry oxygen around the body, leading to greatly increased risk of heart disease. The nicotine present in tobacco is highly addictive and leads to most tobacco users becoming dependent on the nicotine they get from tobacco use.

Negative health impacts are associated with the use of all types of tobacco, including cigarettes, waterpipes and smokeless tobacco. The adverse health effects of tobacco use are also experienced by non-smokers exposed to second-hand smoke. Long term exposure to second-hand smoke increases the risk of lung cancer, coronary heart disease and respiratory problems.

## The global death toll

Tobacco use kills nearly 6 million people every year, including the 600 000 who are killed by the effects of exposure to second-hand smoke (1). Globally, 12% of all deaths among adults aged 30 years and over are attributed to tobacco use (1). However, because of the time lag between when people start to use tobacco and when their health suffers, the full burden of current tobacco-related death and disease has yet to be seen.

Tobacco use is one of the main risk factors for a number of chronic diseases, including cancer, lung diseases and cardiovascular diseases. Research suggests that people who start tobacco use in their teens (as more than 70% do) and continue for two decades or more will die 20 to 25 years earlier than those who never start (2).

## Tobacco-related mortality in the Eastern Mediterranean Region

In the WHO Eastern Mediterranean Region, 12% of all deaths in men and 2% of all deaths in women, aged 30 years and older, are due to tobacco use (1). This includes 9% of all deaths due to noncommunicable diseases and 4% of those due to communicable diseases.

## Cancer

Tobacco causes at least 15 different cancers and is responsible for 22% of all cancer-related deaths (1). More than 40 chemicals in tobacco smoke have been shown to cause cancer. In particular, smokers are over 20 times more likely than non-smokers to develop lung cancer, with over 70% of all lung cancer deaths attributed to tobacco use (1).

Tobacco use increases the risk for many other types of cancer including cancer of the oral cavity, larynx, pharynx, oesophagus, kidney, pancreas, bladder and stomach. It has also been linked to the risk of developing colorectal, liver, cervical, nasal cavity and skin cancer and leukaemia, and has been associated with ovarian cancer and possibly breast cancer.

## Heart disease

Tobacco use makes the heart beat faster, raises blood pressure, increases the risk of hypertension and clogged arteries, and eventually causes heart attacks and strokes, often in relatively young middle-age adults.

One out of every three deaths in the world is due to cardiovascular diseases and tobacco use is one of the biggest risk factors for heart disease and stroke. Smokers have nearly twice the risk of having a heart attack as non-smokers. However, stopping tobacco use after a heart attack can cut the risk of having another heart attack by half and



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improves the chances of surviving another heart attack.

## Respiratory disease

Tobacco use is linked to diseases of the respiratory system and is responsible for 36% of all deaths from them (1). In addition to lung cancer, tobacco use causes other breathing-related diseases such as emphysema and chronic bronchitis.

The resulting inflammation, narrowing and destruction of the airways reduce the capacity and ability of lungs to function, leading to breathing difficulties, disability and often death. Although smokers have an increased risk of developing respiratory problems, quitting smoking leads to significant improvement and a decrease in the frequency of hospitalizations.

## Reproductive health

Tobacco use creates fertility problems for men and women and complications during pregnancy and childbirth. Women who smoke are more likely to experience infertility and delays in conceiving. Women are also more likely to have menstrual problems, including painful periods, irregular bleeding, missed periods and the early onset of menopause. In men, tobacco use diminishes sperm count and reduces the blood flow to the penis, which can cause impotence.

Maternal smoking and exposure to second-hand smoke during pregnancy increases the risks of miscarriage, premature delivery, stillbirth, low birth weight, reduced breast milk production and neonatal death (sudden infant death syndrome). In addition, tobacco use by mothers increases the risk of health and behavioural problems in infants and children, including abnormal blood pressure, cleft palate, leukaemia, colic, wheezing, respiratory disorders, eye problems, mental retardation, attention deficit disorder and behavioural and developmental problems.

## References

1. *WHO global report: mortality attributable to tobacco*. Geneva, World Health Organization, 2012.
2. *The tobacco health toll*. Cairo, WHO Regional Office for the Eastern Mediterranean, 2005.

## Communicable diseases

Tobacco use is not only linked to noncommunicable diseases but is also associated with communicable diseases. It is responsible for an estimated 7% of tuberculosis deaths and 12% of all deaths due to lower respiratory infections (1).

## Other harms to health

There are many other health harms linked to tobacco use. They include:

- ▶ hearing loss and middle ear infections
- ▶ visual impairment including cataracts, glaucoma and macular degeneration
- ▶ skin conditions such as premature wrinkling, psoriasis and discoloured fingers
- ▶ tooth decay and yellowing teeth
- ▶ osteoporosis, reduced bone density and back problems
- ▶ stomach ulcers and acid reflux into the oesophagus
- ▶ arterial diseases including Buerger disease, which can lead to gangrene and amputations.

## Best practices and the way forward

To prevent the negative health effects of tobacco use there needs to be:

- ▶ full implementation of the WHO Framework Convention on Tobacco Control
- ▶ increased public awareness of the different harms to health caused by tobacco
- ▶ effective provision of cessation services to help tobacco users quit
- ▶ monitoring of, and research into, the health effects of tobacco use including from all tobacco products and on different population groups such as nonsmokers, women and children.