



SMOKING AND CARDIOVASCULAR DISEASE IN THE EASTERN MEDITERRANEAN REGION



World Health
Organization

REGIONAL OFFICE FOR THE Eastern Mediterranean

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CARDIOVASCULAR DISEASE GLOBALLY

Cardiovascular disease (CVD) is the leading cause of death worldwide. Nearly one third of all deaths globally in 2015 were related to CVD (1).

In the past 25 years, age-standardized death rates from ischaemic heart disease have fallen by more than 50% in high-income countries. However, the death rate has remained unchanged or even risen in many low- and middle-income countries (LMICs), adding to the economic challenges they face (2). The burden of CVD has increased because it is striking people at a younger age and because major CVD risk factors have increased (2). Behavioural risk factors like smoking, an unhealthy diet and physical inactivity accounted for nearly 80% of ischaemic heart disease occurrence in LMICs (3).

CARDIOVASCULAR DISEASE IN THE EASTERN MEDITERRANEAN REGION

CVD is the main cause of mortality and morbidity in most countries of the Eastern Mediterranean Region. CVD mortality in the Region is mostly attributable to ischaemic heart disease. In 2015, nearly 1.4 million deaths in the Region were related to CVD. The age-standardized disability-adjusted life years (DALY) rate is higher in the Region than the global rate; in other words, the overall burden of disease is worse than the world average (4). It has been estimated that in the next decade, CVD mortality will increase more markedly in WHO's Eastern Mediterranean Region than in any other region of the world except Africa (5).

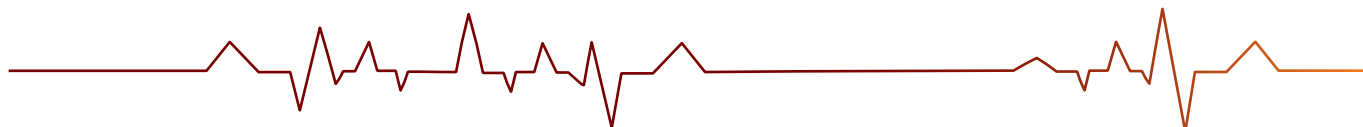
SMOKING AROUND THE WORLD

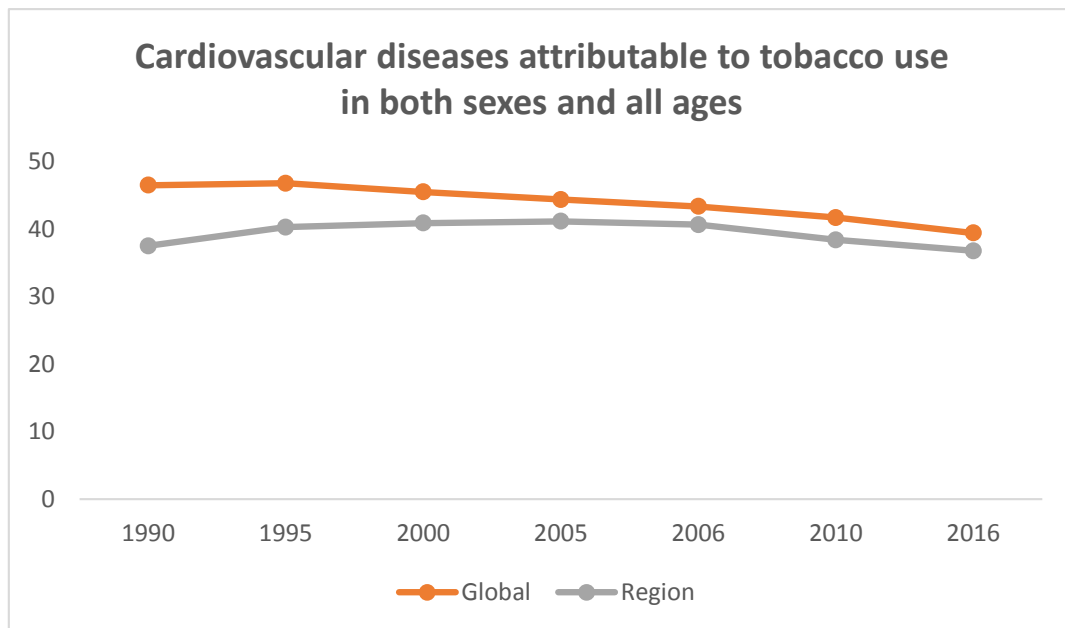
The prevalence of smoking varies globally and is different between men and women in different populations (6). About 80% of smokers live in LMICs, with high rates of morbidity and mortality (7). While cigarettes are the most common type of tobacco used worldwide, other types of smoking exist, for example smokeless or spit tobacco (South Asia), pipes and cigars (United States of America), clove cigarettes (Indonesia), bidis (India) and waterpipes or shisha (common in the Region). Currently, use of e-cigarettes is increasing worldwide, especially among young people.

SMOKING IN THE EASTERN MEDITERRANEAN REGION

In the Region, nearly 36% of men and 2.9% of women aged over 15 years were smokers in 2015 (8). Unfortunately, tobacco use is increasing in some countries in the Region and may reach 52% and 22% in men and women, and 42% and 31% in boys and girls, respectively (9).

Waterpipe use is also popular, especially among men and older people, and recently, its consumption has risen among young men and women (10). Around 25% of university students in countries of the Region smoke waterpipes. In some countries, 39% of boys and 31% of girls





aged 13-15 use waterpipes (10).

Whereas waterpipe smoking is on the increase, cigarette use may decrease in some countries in the Region (10).

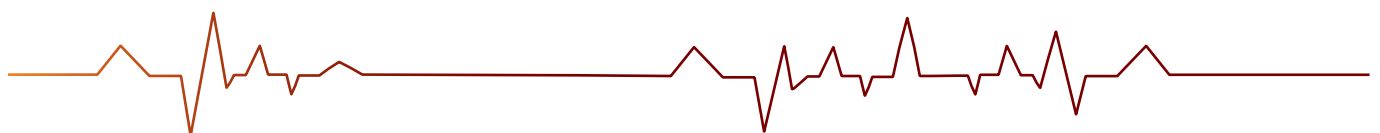
While unflavoured waterpipe tobacco is centuries old, flavoured varieties became popular in the 1990s. They are mainly used by adolescents in the Region, and are wrongly claimed to be less toxic than unflavoured tobacco (11).

CARDIOVASCULAR HAZARDS OF TOBACCO USE

- Globally, 12% of all deaths from CVD are attributable to smoking (12). Tobacco consumption is one of the most important risk factors for CVD in the Region (5).
- Smoking leads to atherosclerosis and thrombosis, both of which are important initiators of heart attacks, stroke or sudden death. Recurrent heart attacks and stroke are more frequent in smokers (13).
- Peripheral vascular disease, aortic aneurysm and rupture, and occlusion of bypass grafts or stents are all more frequent in smokers (14).
- Several mechanisms can accelerate the onset and progress of atherosclerosis in smokers, for example inflammation, endothelial dysfunction, impaired insulin sensitivity and lipid abnormalities (14).
- Smoking worsens other CVD risk factors, for example increasing serum triglycerides and oxidative LDL-cholesterol, lowering HDL-cholesterol and increasing blood pressure (13).
- Smoking causes diabetes and aggravates insulin resistance in diabetic patients, which leads to more cardiovascular events (15).
- Smoking can promote coronary artery spasm, leading to angina and myocardial infarction or arrhythmia (14).
- Early signs of CVD can appear in patients who smoke as little as 5 cigarettes per day (13).

SECONDHAND SMOKE CAN CAUSE CARDIOVASCULAR DISEASE

- Secondhand smoke can cause most of the cardiovascular events related to active smoking through similar causal mechanisms (13).
- CVD is the cause of mortality in 87% of deaths of adults who are secondhand smokers and ischaemic heart disease is responsible for 63% of deaths (16, 17).
- There is no safe level of exposure to secondhand smoke. Even 30 minutes of exposure can



- interfere with heart function and the blood and vascular systems.
- Secondhand smoke may increase myocardial infarction size, decrease heart rate variability, increase arterial stiffness and ultimately lead to acute cardiovascular events like heart attacks and stroke or increased blood pressure (13).
 - Secondhand smoke in childhood may lead to future atherosclerosis and cardiovascular events in young adulthood. Increased C-reactive protein is one of the responsible mechanisms (18).
 - Congenital heart disease may occur in the fetuses of pregnant women exposed to secondhand smoke (19).

QUITTING SMOKING REDUCES **CARDIOVASCULAR RISKS**

- On average, cigarette smokers die 10 years younger than non-smokers (13).
- Quitting tobacco use at the age of 60 increases life expectancy by around 3 years; quitting at 50 increases it by 6 years; and quitting at 40 or 30 increases it by 9 or 10 years, respectively (20).
- Even long-term smokers can enjoy dramatic health improvements by quitting. The risk of heart attack declines rapidly and may be halved within a year of quitting, while the risk of stroke will fall to that of a non-smoker in five years (13).
- Stopping tobacco use normalizes blood pressure and heart rate. Blood circulation improves within 20 minutes, blood oxygen levels increase and the risk of a heart attack decreases within 8 hours (21).
- Cutting exposure to secondhand smoke can decrease CVD morbidity and mortality (13).

SMOKE-FREE LAWS REDUCE **CARDIOVASCULAR DISEASE**

- More than 90% of the world's population could benefit from the implementation of smoke-free policies as stipulated in the WHO Framework Convention on Tobacco Control (WHO FCTC), ratified by many countries worldwide. Smoke-free policies are one of the most cost-effective approaches to prevent CVD (22).
- The WHO's new Global Hearts Initiative offers another comprehensive approach to integrate much-needed activities to tackle CVD and prevent and control tobacco use within the primary health care system. It consists of three packages that focus on CVD (HEARTS) (23), tobacco (MPOWER) and salt intake (SHAKE).
- The potential reduction in smoking in the Region through the comprehensive implementation of the WHO FCTC and the MPOWER measures varies from 20-40% in 5 years and 56% in 15 years in some countries (9).
- Implementing smoke-free laws in workplaces, restaurants and bars could reduce ischaemic heart disease, stroke and total heart disease by 15%, 19% and 39%, respectively (13).
- Smoke-free laws cut hospital admissions for myocardial infarction and other acute coronary syndromes (13).

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