Main Causes of Avoidable Mortality in Slovakia

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Original Article

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Abstract:

Avoidable mortality refers to deaths that could be prevented or averted through adequate prevention, healthcare and interventions. These deaths are often linked to factors such as a lack of access to quality healthcare, insufficient prevention and health awareness, a lack of vaccinations, misdiagnosed or untreated diseases, and inadequate healthcare systems. The work maps the incidence of preventable diseases in Slovakia in comparison with OECD countries. According to a published statistical report by the Eurostat agency, up to 11,000 inhabitants of Slovakia under the age of 75 die annually from so-called preventable diseases. Up to 32% are caused by diseases of the heart and blood vessels, and 16% are caused by stroke. However, diseases of the heart and blood vessels account for up to 52% of all deaths in Slovakia (1). Slovakia ranks 21st

in treatable diseases. This does not indicate a good state of healthcare. The work also examines the occurrence of causes of preventable and curable diseases. The most common are cardiovascular diseases, tumors, and diseases of the respiratory and digestive organs. In the case of preventable diseases, these are the same groups. Examples of preventable mortality may include deaths from infectious diseases such as malaria, tuberculosis or HIV/AIDS that could be prevented with adequate preventive measures, vaccination or available treatment. For non-HIV patients who are at high risk of HIV infection and willing to adhere to prescribed medications, PrEP is very effective. Among adherents, PrEP can reduce the risk of HIV transmission by more than 90% (2). Another example would be deaths linked to unhealthy lifestyles, such as cardiovascular disease caused by smoking, an unhealthy diet and a lack of physical activity, which could be averted through prevention and lifestyle changes. Preventable mortality is an important area for health systems and health policies because it shows the possibilities of improving healthcare and reducing mortality through appropriate measures. Identifying the causes of preventable deaths can help create health programs and policies that aim to improve population health and prevent unnecessary loss of life.

Introduction

Mortality analysis is often used to examine the course of diseases, especially in connection with their characteristics, such as time of death or causes of death. The most important characteristic of adult mortality is avoidable mortality. Avoidable mortality is death that could be prevented by improving healthcare and prevention. Barkasi (2017) adds that civilization diseases and their gradual prevalence in our population represent, from an economic point of view, in addition to constantly increasing healthcare expenses, also include costs associated with the loss of work productivity and the failure of economic growth due to lost working days, mortality and permanent disability. From a social point of view, the spread of civilizational diseases represents a loss of social status for the affected part of the population, a drop in their income and thus a decrease in consumption for this part of the population. Compared to the economic and social losses associated with the prevalence of civilization diseases, the costs of prevention and effective treatment of these diseases are significantly lower (3).

Worldwide, the threshold before which we talk about preventable mortality, has been determined as the age of 75. Avoidable mortality is divided into:

- Preventable mortality, which can be prevented primarily by preventive measures, i.e., mainly effective public health and primary preventive interventions (i.e., before the outbreak of diseases/injuries, in order to reduce the occurrence).
- Curable mortality, which can mainly be avoided even after the onset of the disease with timely and effective interventions in the field of healthcare, including secondary prevention and treatment.

A comparison of the causes of preventable deaths in the Slovak Republic and in the EU

The OECD (4) defines preventable and treatable causes of mortality as follows:

- Preventable mortality (preventable): Causes of death that are preventable mainly through effective public healthcare and primary prevention interventions (i.e., before disease/injury outbreaks, to reduce occurrence).
- Treatable (or accessible) mortality: Causes of death that are largely avoidable through early and effective healthcare interventions, including secondary prevention and treatment (i.e., after disease onset to reduce mortality).

As stated in OECD documents (5), in 2019 more than 1 million premature deaths could have been prevented in EU countries through better prevention and healthcare interventions. This represents about two-thirds of deaths in the under-75 age group. Most of these deaths (644,000 or 64% of the total) were preventable through effective primary prevention and other public health interventions, while just over one-third (371,000 or 36%) were considered treatable through more effective and timely interventions within healthcare (Fig. 1).

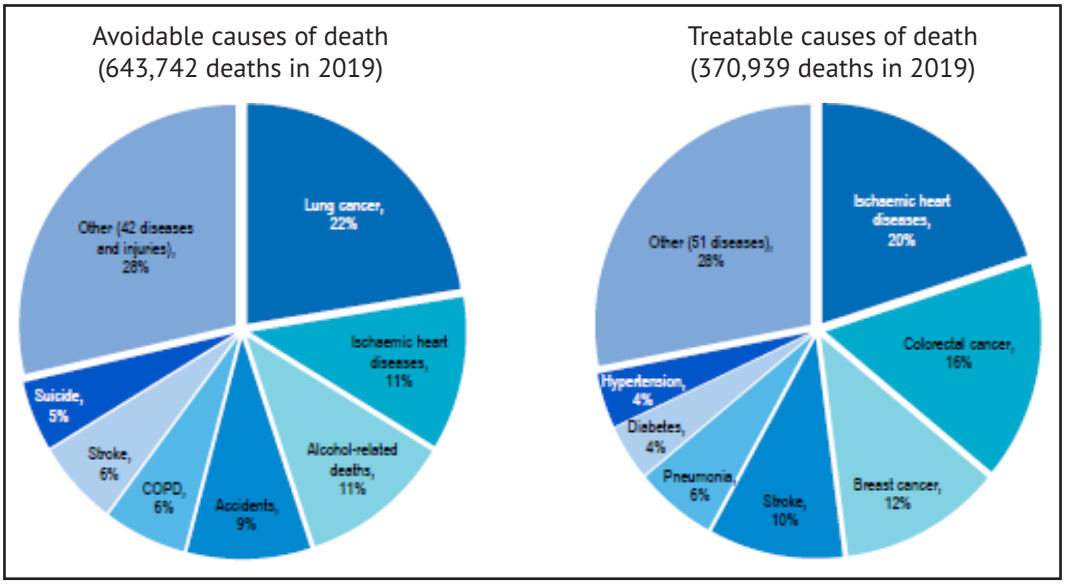
According to Eurostat data for 2019 (4), Slovakia ranked 21st out of 27 European countries in the assessment of preventable mortality. In 2019, there were 395 avoidable deaths per 100,000 inhabitants a year in Slovakia. Of the total number of preventable deaths in 2019, avoidable deaths accounted for 231 and treatable deaths for 164 per 100,000 inhabitants per year (Fig. 2).

The Slovak Republic was placed at the bottom end of this ranking and this indicates serious deficiencies in the prevention and treatment of chronic non-infectious diseases in particular.

The most important groups of preventable deaths according to the OECD (2022) are:

- *Cardiovascular diseases* - the most common are myocardial infarction, heart failure, stroke and hypertension. These diseases are often associated with an unhealthy lifestyle and are related to risk factors such as smoking, an unhealthy diet, a lack of exercise, obesity, high blood pressure and diabetes.
- *Tumor diseases* - these are malignant tumors that occur in various organs. Risk factors include smoking, excessive alcohol consumption, a lack of exercise and an unhealthy diet. Tumor diseases are gradually becoming the biggest problem for the health system around the world, and we can expect that malignant tumors to threaten the human population even more in the third millennium of its existence. It is estimated that in 2030 the total number of cancer patients may triple (6).
- *Alcohol and drug addiction* - Alcohol is the most common preventable risk factor for health damage and death. Controlling the availability and supply of alcohol has been shown to be among the most efficient and cost-effective approaches to reducing alcohol-related health harm (7). Alcoholism and drug addiction are serious health problems that can cause a range of complications, including heart disease, liver disease and mental disorders.
- *Disorders of the respiratory system* - for example, chronic obstructive pulmonary disease (COPD) and bronchial asthma, etc. The main risk factors include smoking and air pollution.

Figure 1 Leading causes of preventable deaths in the EU, 2019



Source: OECD/European Union (2022), *Health at a Glance: Europe 2022*

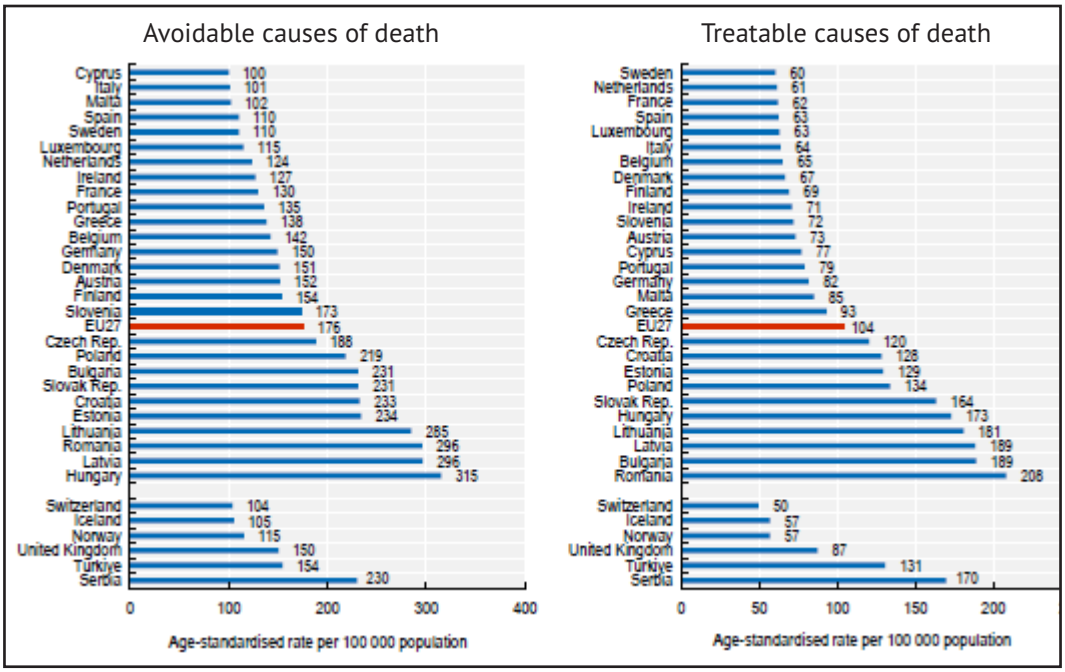
- *Injuries* - including traffic accidents, accidents at work and domestic accidents. Accident prevention includes following safety rules and using protective equipment.

According to NCZI (2022-8), the majority of diseases that cause total death in the Slovak Republic are diseases of the circulatory system, tumors of the respiratory and digestive systems, and external causes. These mentioned diseases caused 93.23% of all deaths in 2010. In 2012, the mentioned diseases caused death in 93.25% of the population. In 2013, mortality from these diseases dropped to 92.97%. In the following years, the given diseases caused death in the range of 92.24% to 90.65%, while each year the percentage decreased slightly. In 2020, the above-mentioned diseases caused 85.15% of all deaths. Between 2012 and 2020, the number of deaths per 100,000 inhabitants is 0.46 to 0.47 and is more or less stable, the higher occurrence was in 2021 as a result of deaths from diseases caused by the coronavirus. In 2021, a total of 73,461 people died in Slovakia. The increase compared to the previous year, when 59,089 people died, is explained by deaths associated with the COVID-19 pandemic.

As reported by NCZI (2019 - 9), in cases of preventable deaths in 2017 in Slovakia, the most common causes of death were myocardial infarction and coronary heart disease (20.3%), lung cancer (13.3%), diseases caused by alcohol and other poisonings (12%), and cerebrovascular accidents (CVA) and cerebrovascular diseases in total (9.1%). The risk factors that connect most of these diseases are smoking, overeating, a lack of exercise, alcohol and not having preventive examinations. But the common basis is an incorrect lifestyle and a lack of health awareness. Our population has not been guided by the family towards a healthy lifestyle since childhood. The school, which complements the family in education, does not deal with the special subject "health education". At the same time, it is known that the knowledge and habits that an individual develops in his/her youth usually have a permanent character and persist throughout the rest of their life.

In the cases of treatable deaths, the most common causes were myocardial infarction and coronary artery disease, overall 27%, colorectal cancer (14.2%), central brain stroke and cerebrovascular diseases in general (10.8%), breast cancer in women (7 ,1%). (9).

Figure 2 Avoidable deaths in EU countries, 2019



Source: OECD/European Union (2022), *Health at a Glance: Europe 2022*

74,461 inhabitants died in Slovakia in 2021, out of which 35,820 were under the age of 75. The most common causes of death were diseases of the circulatory system. A total of 28,332 people died of these diseases, of which 9,964 people under the age of 75 were at the age of preventable diseases. A total of 13,039 individuals died of malignant tumors, of which 8,061 were under the age of 75. Respiratory system diseases accounted for 6,306 or 2,944 deaths and, in the case of diseases of the digestive tract, 3,135 or 2,280 deaths. In general, almost 50% of deaths were in people younger than 75 (8).

Conclusion

It is important to emphasize that a crucial number of preventable deaths are associated with unhealthy lifestyles and preventable risk factors. It is enough not to smoke, eat a healthy and balanced diet, exercise enough and participate in preventive and screening programs in time. Most cases of preventable mortality in Slovakia could be averted by adequate preventive measures and the improvement of public health, including education about healthy lifestyles, the availability of healthcare and support for the creation of a healthy environment. If the Slovak healthcare system manages to mitigate the impact of risk factors, provide high quality diagnostic and therapeutic procedures, and provide sufficient medical personnel and financial resources, we believe that the indicators of the health status of the Slovak population can improve in a relatively short period of time.

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