

Estimates of incidence and mortality of cervical cancer in 2018: a worldwide analysis

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Abstract

Background

The knowledge that persistent human papillomavirus (HPV) infection is the main cause of cervical cancer has resulted in the development of prophylactic vaccines to prevent HPV infection and HPV assays that detect nucleic acids of the virus. WHO has launched a Global Initiative to scale up preventive, screening, and treatment interventions to eliminate cervical cancer as a public health problem during the 21st century. Therefore, our study aimed to assess the existing burden of cervical cancer as a baseline from which to assess the effect of this initiative.

Methods

For this worldwide analysis, we used data of cancer estimates from 185 countries from the Global Cancer Observatory 2018 database. We used a hierarchy of methods dependent on the availability and quality of the source information from population-based cancer registries to estimate incidence of cervical cancer. For estimation of cervical cancer mortality, we used the WHO mortality database. Countries were grouped in 21 subcontinents and were also categorised as high-resource or lower-resource countries, on the basis of their Human Development Index. We calculated the number of cervical cancer cases and deaths in a given country, directly age-standardised incidence and mortality rate of cervical cancer, indirectly standardised incidence ratio and mortality ratio, cumulative incidence and mortality rate, and average age at diagnosis.

Findings

Approximately 570 000 cases of cervical cancer and 311 000 deaths from the disease occurred in 2018. Cervical cancer was the fourth most common cancer in women, ranking after breast cancer (2.1 million cases), colorectal cancer (0.8 million) and lung cancer (0.7 million). The estimated age-standardised incidence of cervical cancer was 13.1 per 100 000 women globally and varied widely among countries, with rates ranging from less than 2 to 75 per 100 000 women. Cervical cancer was the leading cause of cancer-related death in women in eastern, western, middle, and southern Africa. The highest incidence was estimated in Eswatini, with approximately 6.5% of women developing cervical cancer before age 75 years. China and India together contributed more than a third of the global cervical burden, with 106 000 cases in China and 97 000 cases in India, and 48 000 deaths in China and 60 000 deaths in India. Globally, the average age at diagnosis of cervical cancer was 53 years, ranging from 44 years (Vanuatu) to 68 years (Singapore). The global average age at death from cervical cancer was 59 years, ranging from 45 years (Vanuatu) to 76 years (Martinique). Cervical cancer ranked in the top three cancers affecting women younger than 45 years in 146 (79%) of 185 countries assessed.

Interpretation

Cervical cancer continues to be a major public health problem affecting middle-aged women, particularly in less-resourced countries. The global scale-up of HPV vaccination and HPV-based screening—including self-sampling—has potential to make cervical cancer a rare disease in the decades to come. Our study could help shape and monitor the initiative to eliminate cervical cancer as a major public health problem.

Funding

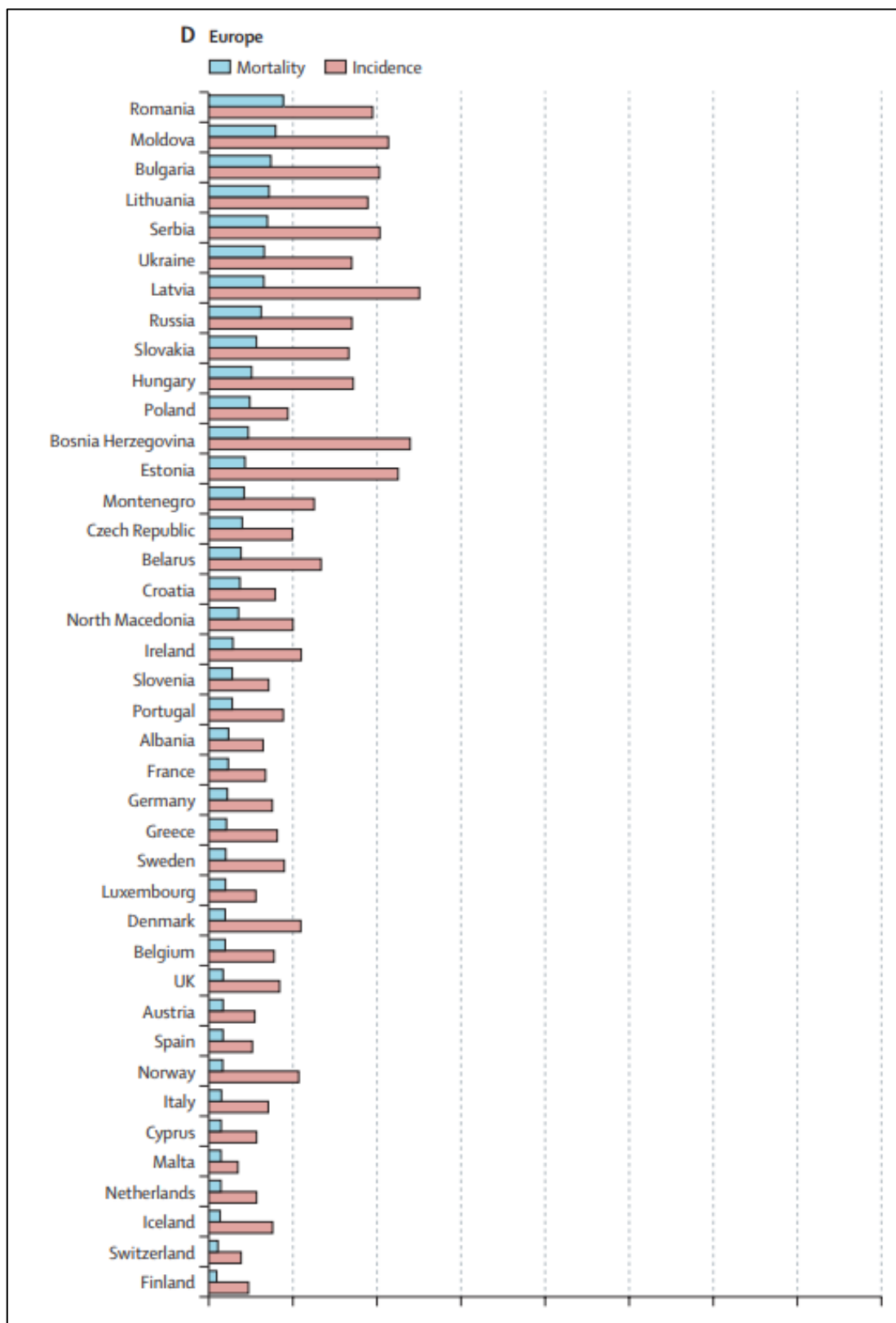
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Slika 3. World age-standardised incidence and mortality rate for cervical cancer, estimates for 2018, ordered by country and ranked in descending order of mortality