Trends in mortality related to pulmonary embolism in the DACH countries: data from the WHO Mortality Database

Authors:
L Hobohm¹, T Sebastian², L Valerio¹, H Mahmoudpour¹, G Vatsakis², F Johner², K Keller¹, T Muenzel¹, N Kucher², S Konstantinides¹, S Barco², ¹University Medical Center of Mainz - Mainz - Germany, ²Universitätsspital Zürich, Angiology - Zürich - Switzerland

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Secondary Prevention

Background

Little is known about the burden imposed by pulmonary embolism for Germany, Austria and Switzerland (DACH countries).

Purpose

We aimed to assess pulmonary embolism-related mortality and time trends for the DACH countries based on data from the WHO Mortality Database.

Methods

We analysed vital registration data from the WHO Mortality Database (2000–2016) covering subregions of the WHO European Region: Germany, Switzerland and Austria (DACH countries). Deaths were considered pulmonary embolism-related if International Classification of Disease-10 code for acute pulmonary embolism or any code for deep or superficial vein thrombosis was listed as the primary cause of death.

Results

Between 2000 and 2016, age-standardised annual pulmonary embolism-related mortality rates decreased linearly from 15.6 to 7.8 deaths per 1000 population. In the 5-year period between 2012 and 2016 an average of 9127 pulmonary embolism-related deaths occurred annually in the DACH countries with a population of 98 273 329. Interestingly, pulmonary embolism-related mortality rates were considerable higher among women aged 15-55 years compared to age-matched men. Between 2012 and 2016, Germany showed the highest age-adjusted mortality rate (9.2 to 10.8 per 100000 inhabitants) compared to Switzerland (4.9-5.3 per 100000 inhabitants) and Austria (5.2 to 6.0 per 100000 inhabitants). Moreover, this means that the age-adjusted mortality rate in Germany was higher than the West-European average.

Conclusion

The observed decreasing trends in pulmonary embolism-related mortality might reflect improved management of the disease including new treatment options as well as advances in imaging technologies. However, pulmonary embolism remains a substantial contributor to total mortality, especially among women aged 15–55 years. For this reason, campaigns to increase physician and public awareness are urgently required for further improvement of the management and treatment of this preventable thrombotic disorder, which still remains the leading preventable cause of death.