

TRENDS OF LUNG CANCER MORTALITY IN SERBIA: A JOINTPOINT REGRESSION ANALYSIS AND AN AGE-PERIOD-COHORT ANALYSIS

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Background: Lung cancer has been the leading cancer-related cause of deaths in the world during the past decades. The aim of this study was to assess the lung cancer mortality trends in Serbia from 1998 to 2020.

Methods and Objectives: A descriptive epidemiological study was conducted. This study is based on publicly available, completely anonymized data sources. Age-standardized mortality rates (ASRs, per 100,000) were calculated. Joint point regression analysis was used to assess estimated annual percent change (EAPC) with the corresponding 95% confidence interval (CI). Additionally, an age-period-cohort analysis was performed.

Results: In males, the ASRs of lung cancer mortality in Serbia showed stable trends during the entire study period (EAPC = 0.07%, 95% CI = -0.77 to 0.92). In contrast, a significantly increased mortality trend of lung cancer was observed in women (EAPC = 3.00%, 95% CI = 1.40 to 4.70). By sexes, final selected models rejected parallelism ($p < 0.05$) for all ages combined and for age up to 50. Mortality rates from lung cancer in older age groups increased significantly both in males and females. Lung cancer mortality trends significantly decreased in birth cohort from 1946 to 1995, while a significant decline in lung cancer mortality in females was observed in birth cohort from 1956 to 1995.

Conclusions: This analysis showed diverse trends in mortality of lung cancer by sex in Serbia. The increase in mortality trends for females warrants further attention. Besides, further efforts to reduce mortality from lung cancer in Serbia are required.

Keywords: lung cancer; mortality, trends, joint point regression analysis, age-period-cohort analysis