

TRENDS IN LUNG CANCER INCIDENCE AND MORTALITY, AND GENDER DISPARITIES IN CENTRAL SERBIA FROM 2000 TO 2019.

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Background: Lung cancer (LC) is the second most diagnosed cancer globally with 2.2 million cases (11.4% of all diagnoses) and the leading cause of cancer-related deaths, accounting for 18.7% (1.8 million fatalities).

Methods and Objectives: The primary aim of our study was to analyse LC rates in Central Serbia (CS) over a twenty-year period, recognizing its status as the most commonly diagnosed cancer among males and the leading cause of cancer mortality in both sexes, both in Serbia and globally. This retrospective study utilized data from the Serbian cancer registry spanning 2000 to 2019 to analyze LC incidence and mortality trends in CS. A descriptive statistical analysis was performed, and the linear trend was calculated using Excel.

Results: In CS, from 2000 to 2019, the average incidence and mortality rates among males were 63.1 ± 5.1 and 50.7 ± 2.5 , respectively, while among females they were 19.4 ± 3.7 and 15.3 ± 2.6 , respectively. There was a significant increase of 2.8%, both for incidence and for mortality LC rates for females ($R^2=0.72$ and $R^2=0.93$, respectively) in CS. Among males, however, the incidence and mortality rates showed slight increases of 0.2% ($R^2=0.02$) and 0.4% ($R^2=0.20$), respectively. During the observed period, the male-to-female incidence ratio decreased from 3.9 in 2000 to 2.6 in 2019 (with the average incidence rate in males being 3.3 times higher than in females), while the male-to-female mortality ratio declined from 4.2 in 2000 to 2.6 in 2019 (with an average ratio of 3.4).

Conclusions: The findings highlight the need for enhanced smoking prevention efforts and the introduction of screening programs for high-risk populations to address the increasing lung cancer rates, particularly among women, in Central Serbia. Further measurements and monitoring of radon concentration in closed spaces in Serbia are needed in order to indicate the seriousness and remediation of radon-endangered houses. This is important for identifying micro-areas with radon concentrations above 300 Bq/m³.

Keywords: lung neoplasms, female, smoking prevention, screening programs, radon concentration