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The Cancer Control Challenge:
Better Understanding It to Better Face It

EPIDEMIOLOGICAL ANALYSIS OF MORTALITY AND INCIDENCE OF MALIGNANT NEOPLASMS OF THE BRONCHI AND LUNGS BETWEEN 2016 AND 2023: INSIGHTS BEFORE AND DURING THE COVID-19 PANDEMIC

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Introduction: Lung and bronchial neoplasms are among the most prevalent and lethal worldwide, with high incidence and mortality rates. COVID-19, in turn, had a profound global impact on public health by severely compromising the respiratory system, reaching pandemic status between 2020 and 2023. The epidemiological overlap of these conditions poses a significant challenge and warrants due attention. **Objectives:** To identify variations in adjusted mortality and incidence rates of bronchial and lung neoplasms across Brazilian regions between 2016 and 2023. **Methods:** This retrospective epidemiological study used the “Epidemiology and Morbidity” section of the DATASUS/TABNET platform to collect data on the resident population, number of cases, and to calculate incidence rates per 100,000 inhabitants. Adjusted mortality rates were obtained from the INCA Mortality Atlas. Filters applied included the years 2016 to 2023 and ICD-10 category C34 (Malignant neoplasm of bronchi and lungs). Microsoft Excel was used to tabulate the data and analyze variations over the years studied. **Results:** In the pre-pandemic period, the average incidence rate (IR) was 5.41, with the southern region presenting the highest rate (11.31) and the northern region the lowest (2.00). The average mortality rate in the same period was 15.29, again with the south leading (22.59) and the northeast recording the lowest rate (11.69). Between 2020 and 2023, the average IR rose by 29.02% compared to the pre-pandemic period, reaching 6.98. During this time, the south maintained the highest incidence (14.06), a 24.31% increase, while the north still had the lowest rate (3.27), albeit higher than previously. Conversely, mortality decreased slightly during the pandemic, averaging 14.15. Regional trends remained, with the south showing the highest mortality (20.78) and the northeast the lowest (11.06), representing decreases of 8.01% and 5.38%, respectively. **Conclusion:** The southern region consistently exhibited the highest incidence and mortality rates, potentially due to its greater industrial activity, contributing to air pollution and increased respiratory system aggression. During the pandemic, incidence rates tended to rise, while mortality slightly declined. This may reflect heightened health awareness and concern for respiratory

symptoms, leading to earlier diagnoses and improved treatment outcomes, ultimately reducing mortality.

Keywords: Lung Neoplasms; COVID-19; Epidemiology.