

EPIDEMIOLOGY OF LUNG CANCER IN UZBEKISTAN

Allaberdiev B.T.

Associate Professor, Department of Physiology and Pathology,
Tashkent State Medical University

Abstract : Lung cancer remains one of the most significant causes of cancer-related morbidity and mortality worldwide and presents a notable public health challenge in Uzbekistan. Although Uzbekistan's overall cancer incidence is lower than in many high-income countries, lung cancer still contributes substantially to cancer burden, particularly among men. This article provides a comprehensive epidemiological overview of lung cancer in Uzbekistan, examining incidence, mortality, demographic patterns, risk factors, and public health implications. The results emphasize the urgency of strengthening early detection, prevention strategies such as tobacco control, and improvements in cancer care infrastructure.

Keywords: epidemiology, lung cancer, Uzbekistan, incidence, mortality, risk factors, public health

Introduction

Lung cancer is a malignant tumor originating in the lung tissue, characterized by uncontrolled proliferation of abnormal cells. Globally, it remains a leading cause of cancer death, accounting for millions of annual deaths. Despite lower absolute cancer rates compared to high-income countries, lung cancer contributes significantly to mortality in Uzbekistan and Central Asia. According to WHO data, lung cancers accounted for approximately 7.96 age-standardized deaths per 100,000 population and were among the top causes of cancer mortality in Uzbekistan.

[World Life Expectancy](#)

Reports from regional oncological studies indicate that lung cancer ranks among the most prevalent malignancies in Uzbek men and remains a major cause of fatal outcomes. The epidemiology is shaped by behavioral, environmental, and healthcare system factors that influence detection, diagnosis, and treatment. [PMC](#)

Aim of the Study

The aim of this study is to analyze the epidemiological profile of lung cancer in Uzbekistan, including trends in incidence and mortality, demographic characteristics, and major risk factors. The article also discusses implications for public health interventions, early detection strategies, and cancer control planning.

Materials and Methods

This study is a descriptive epidemiological review using multiple secondary data sources. Key datasets were obtained from international cancer statistics (GLOBOCAN), global health databases, and regional scientific reports on cancer in Uzbekistan. Indicators such as incidence and mortality rates, age-standardized measurements, sex distribution, and trends over time were extracted. Analysis focused on comparing lung cancer burden relative to other cancer types and contextualizing findings within regional and global epidemiological patterns. [econferies.com+1](#)

Results

1. Incidence of Lung Cancer

Recent reports indicate a gradually increasing trend in lung cancer incidence in Uzbekistan. In 2021, approximately 1,574 new lung cancer cases were reported, corresponding to an incidence rate of about 4.6 per 100,000 population. In 2022, new cases rose to 1,676, with an incidence rate near 4.7 per 100,000. These figures suggest a slow but noticeable increase in diagnosis rates. econfservices.com

Regional comparisons show that age-standardized incidence in South-Central Asia (including Uzbekistan) is relatively low compared to high-income regions but still represents a significant burden given population aging and risk factor prevalence. [PMC](#)

2. Mortality and Fatality Ratio

Lung cancer is associated with high mortality worldwide, and Uzbekistan is no exception. The mortality-to-incidence ratio, an indicator of fatality, is particularly high: about 88.2% according to regional data. This reflects late-stage diagnosis and limited treatment options. [PMC](#)

Age-standardized mortality data from WHO identify lung cancer as a leading cause of cancer deaths, with nearly 8 deaths per 100,000 population. This places Uzbekistan among countries with moderate lung cancer mortality, though still significant within the region. [World Life Expectancy](#)

3. Demographic Characteristics

Men are disproportionately affected by lung cancer in Uzbekistan, largely due to higher rates of tobacco smoking among male populations. Data indicate that smoking prevalence among men was 26.8% in 2017 versus only 1.4% among women, contributing to sex disparities in cancer rates. [PMC](#)

Lung cancer incidence increases with age, with most diagnoses occurring in individuals aged 60 years and older, consistent with global patterns of age-related cancer risk.

4. Risk Factors

Behavioral factors, especially cigarette smoking, remain the dominant risk factor for lung cancer, accounting for a large proportion of cases. Other contributors include environmental pollutants such as air pollution, occupational exposures to carcinogens like asbestos and radon, and chronic pulmonary diseases. econfservices.com+1

Discussion

The data show that although Uzbekistan's lung cancer incidence is lower than in many developed countries, the disease exerts a high mortality burden and reflects significant public health challenges. High mortality-to-incidence ratios suggest late detection and limited access to advanced cancer care.

Comparative studies with neighboring countries show similar patterns in Central Asia, where tobacco use and environmental exposures contribute to lung cancer risk. Efforts to reduce smoking rates, particularly among men, remain critical. Public health strategies should prioritize expanded screening where feasible, improved radiological and pathological diagnostics, and broader education campaigns targeting tobacco cessation and environmental health. [PMC](#)

Moreover, integration of early detection tools, population awareness initiatives, and strengthened oncology services could help reduce fatality and improve long-term outcomes.

Conclusion

Lung cancer is a significant public health issue in Uzbekistan, with notable incidence and high mortality rates. The disease disproportionately affects men, influenced by behavioral and environmental risk factors. Strengthening preventive measures—especially tobacco control—

enhancing early detection, and improving cancer care infrastructure are essential to reducing the lung cancer burden. Continued epidemiological surveillance and targeted health policies will support effective cancer control in Uzbekistan.

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