

Temporal trends of tracheal, bronchus, and lung cancer between 2010 and 2019, in Asian countries by geographical region and sociodemographic index, comparison with global data

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Abstract

Background: This study aimed to describe the trends in incidence, mortality, and burden of tracheal, bronchial and lung (TBL) cancer in Asia from 2010 through 2019 and compare with global and other continental data.

Methods: We collected TBL cancer data from the 2019 Global Burden of Disease (GBD) study from 2010 to 2019 in 49 countries and territories in Asia. For all locations, annual case data and age-standardized rates (ASRs) were used to investigate the incidence, prevalence, mortality, and disability-adjusted life-years (DALYs) of TBL from 2010 to 2019. The relative difference (%) between years was used to show comparative variations of ASRs for the indicators studied.

Results: In 2019, more than 55% of TBL cancer cases and deaths occurred in Asian countries. A total of 57% of lung cancer patients lived in Asia and almost 60% of the global burden of lung cancer was imposed on Asian countries. From 2010 to 2019, incidences, deaths, prevalence cases, and DALYs number of TBL cancer increased over 1.34-, 1.31-, 1.31-, and 1.26-fold, in Asia. During this period, the age-standardized incidence rate (ASIR), the age-standardized death rate (ASDR), the age-standardized prevalence rate (ASPR), and the age-standardized DALYs rate (DALYs ASR) of TBL cancer decreased by 1, 3, 4, and 4%, respectively. While at the same time, the decreasing trend of these rates globally and in America and in Europe happened faster. In 2019, age-specific incidence, death, prevalence, and DALY cases of TBL cancer were peaking at 65-74, 70-74, 65-69, and 65-69 years, respectively. In 2019, the highest ASIR, ASDR, and DALYs ASR of TBL cancer was observed in East Asia countries and the highest ASPR in high-income Asia Pacific countries. Central Asia and high-income Asia Pacific countries experienced a decreasing trend in ASIR and ASDR, and the South Asia countries experienced the highest increasing trend from 2010 to 2019. ASPR only decreased in Central Asia, and DALYs ASR only increased in South Asia. In 2019, among high sociodemographic index (SDI) Asian countries, Brunei Darussalam had the highest ASIR, ASDR, and DALYs ASR and the Republic of Korea had the highest ASPR. Among high-middle SDIs, Turkey and Georgia; among middle SDIs, China and Armenia; among low-middle SDIs, Mongolia and the Democratic People's Republic of Korea had the highest ASIR, ASDR, ASPR, and DALY ASR of TBL cancer. Among low SDI Asian countries, Pakistan had the highest ASIR, ASDR, ASPR, and DALY ASR of TBL cancer.

Conclusion: Most of the global burden of lung cancer occurs in Asian countries, and the decreasing trend of incidence, death, prevalence, and burden of this cancer in these countries

is slower than in other regions. Therefore, the implementation of necessary measures in order to reduce the process of this cancer is considered urgent.

Keywords: Asia, Lung; bronchus, burden, incidence, mortality, prevalence