Global Burden and Temporal Trends of Non-Hodgkin Lymphoma: A GBD 2021 Analysis Across 204 Countries

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Introduction

- Non-Hodgkin Lymphoma (NHL) comprises a heterogeneous group of hematologic malignancies and remains a major contributor to the global cancer burden.
- Comprehensive global estimates are essential to inform policy and guide cancer control strategies.

Methods

- We analyzed the burden of NHL using the Global Burden of Disease (GBD) 2021 dataset across 204 countries and territories from 1990 to 2021.
- Key metrics included disability-adjusted life years (DALYs), years of life lost (YLLs), and prevalence, reported as absolute numbers and age-standardized rates.
- Data were processed in R (v4.4.2) using tidyverse, ggplot2, and related packages.

Results

- In 2021, NHL accounted for a total of 7,758,893 DALYs, of which 7,412,577 were attributed to YLLs, reflecting the substantial mortality burden of the disease.
- The global prevalence was 2,916,574 cases in 2021.

Results

- Between 1990 and 2021, age-standardized DALY rates showed modest increases, rising from 100.4 per 100,000 in 1990 to 111.7 per 100,000 in 2021.
- Similarly, age-standardized YLL rates increased from 97.2 to 107.1, while prevalence rates rose from 23.9 to 46.5 per 100,000 during the same period.
- Geographically, the highest absolute DALYs in 2021 were reported in China, India, and the United States, while China alone contributed over 15% of the global NHL DALY burden.
- When assessed by percentage share of the global burden, the top contributors remained almost consistent across DALYs, YLLs, and prevalence with China, the U.S., India and Japan at the forefront.

Discussion

- Despite diagnostic advances and expanding treatment options, the global burden of NHL has increased over the past three decades.
- The rising age-standardized DALY and prevalence rates highlight the need for targeted prevention strategies and enhanced access to care, particularly in high-burden countries.
- Future health policies must account for these evolving trends to alleviate the societal and healthcare burden imposed by NHL.

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