DEMOGRAPHIC DISPARITIES AND MORTALITY TRENDS IN BURKITT LYMPHOMA: A 22-YEAR CDC WONDER DATABASE ANALYSIS

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Introduction

Burkitt lymphoma is a highly aggressive non-Hodgkin B-cell lymphoma, accounting for 1–5% of all NHL cases. It disproportionately affects males and is known for its rapid progression. This study evaluates long-term mortality trends across demographic subgroups in the United States to understand disparities in disease burden.

Aim

To evaluate national mortality trends and demographic disparities in Burkitt lymphoma from 1999 to 2020 using CDC WONDER data.

Objectives

- Determine overall mortality trends in Burkitt lymphoma
- Analyze trends by sex, race, age, region, and geographic location
- Identify disparities in AAMR between subgroups

Methods

CDC WONDER database was used to extract deaths attributed to Burkitt lymphoma (ICD-10 code C83.7) between 1999 and 2020. Age-adjusted mortality rates (AAMRs) were calculated and stratified by sex, age group (<15, 15–64, >64), race (White, Black), census region (Northeast, South, Midwest, West), and location (metropolitan vs. non-metropolitan). Mann–Kendall trend test was used for temporal analysis, and t-tests were used for subgroup comparisons.

Results

- **Total deaths:** 5,425
- **Overall AAMR:** 0.07 per 100,000 (95% CI: 0.068–0.072)
- No significant overall trend (τ = -0.303, p = 0.051)

Subgroups with significant AAMR decreases:

- Female patients (τ = -0.352, p = 0.022)
- Age 15–64 (τ = -0.519, p = 0.002)
- White patients (τ = -0.418, p = 0.007)
- Metropolitan areas (τ = -0.387, p = 0.013)
- Northeast (τ = -0.581, p = 0.022)
- West (τ = -0.469, p = 0.002)

No trends observed:

- <15 and >64 age groups, Black patients, South and Midwest regions, non-metropolitan areas (p > 0.05)

Subgroup comparisons (all p < 0.001):

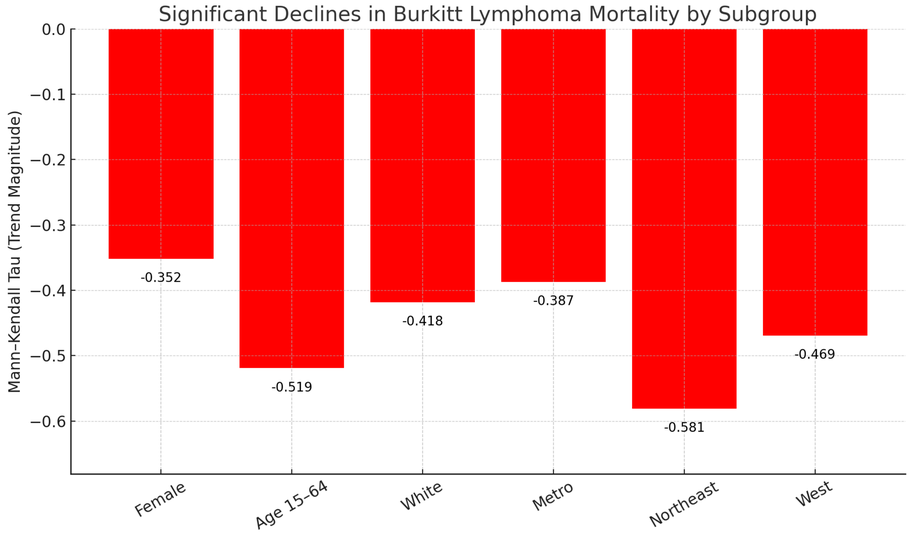
- Males > Females
- White > Black
- Older Adults > Younger Adults
- Metro vs. Non-metro: No significant difference (p = 0.457)

Summary

While overall Burkitt lymphoma mortality remained stable, several subgroups experienced significant declines — especially females, younger adults, and patients in white and metropolitan populations. Disparities persist in sex, age, and racial distribution of disease burden.

Discussion

The male predominance in Burkitt lymphoma mortality warrants deeper investigation into sex-linked biological mechanisms. Targeted prevention and treatment strategies, particularly for high-risk subgroups, may help reduce mortality further and address the existing demographic disparities.



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