UNRAVELING PTCL MORTALITY TRENDS IN THE U.S.: AGE, GENDER, AND GEOGRAPHIC DISPARITIES (1999–2023) USING CDC WONDER DATABASE

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Introduction

- Peripheral T-cell lymphomas (PTCLs) are aggressive hematologic malignancies with limited treatment options.
- Prognosis remains poor, with disparities in survival across populations.
- Understanding mortality trends by age, gender, race/ethnicity, and geography is critical for guiding targeted interventions.

Aim

- To evaluate long-term trends in PTCL-related mortality in the U.S. (1999–2023).

Objectives

- Identify demographic and geographic disparities in PTCL mortality.
- Assess changes in mortality patterns over time.
- Inform strategies for equitable healthcare delivery and research priorities.

Methods

- Data source: CDC WONDER database (1999–2023).
- Population: U.S. individuals aged 45–85+.
- Outcomes: Age-adjusted mortality rates (AAMRs) per 100,000 persons.
- Analyses:
  - Trends by year, gender, race/ethnicity, urban-rural classification, and region.
  - Mortality distribution by place of death.
  - Joinpoint regression for average annual percent change (AAPC).

Results

- **Total deaths:** 4,092 (1999–2023).
- **Places of death:**
  - Medical facilities: 1,897
  - Home: 1,490
  - Hospice: 311
  - Nursing/long-term care: 218
- **Overall mortality:** AAMR rose from 0.04 (1999) → 0.24 (2023); AAPC 7.24%.
- **Gender:**
  - Males: higher AAMR (0.18 vs 0.08); peaked in 2019, then declined slightly.
  - Females: steady rise, AAMR 0.16 by 2023.
- **Race/ethnicity:**
  - Highest in Non-Hispanic Blacks (AAMR 0.24; AAPC 8.04%).
  - Non-Hispanic Whites: steady increase (AAPC 7.36%).
  - Hispanics: modest rise (AAPC 2.95%).
- **Geography:**
  - Midwest highest AAMR (0.184); South steepest rise (AAPC 8.25%).
  - California: highest number of deaths (n=465).
  - Rural areas: higher AAMRs than urban; sharpest increase 2016–2020.

Summary

- PTCL mortality in the U.S. has significantly increased over two decades.
- Disparities persist by gender, race/ethnicity, geography, and urban-rural status.

Discussion

- Males, non-Hispanic Blacks, and rural residents are disproportionately affected.
- Rising mortality highlights unmet needs in PTCL management and access to care.
- Regional differences suggest variability in healthcare delivery and outcomes.
- Targeted interventions and equity-focused strategies are urgently required.

References

- CDC WONDER Online Database. U.S. Centers for Disease Control and Prevention.
- Joinpoint Regression Program, Version 4.9.1, National Cancer Institute.

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