DIAGNOSIS, SURVIVAL, AND PROGNOSTIC FACTORS IN ACUTE MYELOID LEUKEMIA IN THE UNITED STATES: A RETROSPECTIVE COHORT STUDY

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Introduction

Multiple myeloma represents a significant global health challenge, with incidence and mortality rates varying markedly across different regions and ethnic groups. Previous studies have highlighted disparities influenced by genetic and socioeconomic factors; however, comprehensive global data analyses remain limited. Understanding these variations is essential for identifying regions with inadequate diagnostic and treatment resources and for formulating targeted health care policies. This study aims to provide an in-depth analysis of multiple myeloma rates worldwide, emphasizing regional and ethnic disparities.

Methods

Countries were categorized into regions according to GLOBOCAN classifications. Racial and ethnic compositions were assessed using data from the CIA World Factbook. Age-standardized incidence rate (ASIR) and age-standardized mortality rate (ASMR) per 100,000 population for multiple myeloma were calculated for each region. Comparative analyses of these rates were conducted among different racial and ethnic groups within the regions.

Results

The incidence and mortality rates of multiple myeloma exhibit significant regional variations. North America shows the highest incidence (ASIR, 4.8) and mortality (ASMR, 1.6) rates, influenced by its predominantly White, Black, and Hispanic populations. Africa and Asia, with predominantly Black and Asian populations, respectively, report the lowest incidence rates (ASIR, 1.1 and 1.2, respectively), likely due to underdiagnosis and reporting challenges. Mortality rates reveal disparities in health care access, with Africa and Latin America demonstrating higher relative mortality despite lower incidence, impacted by mixed ethnic groups in Latin America. Europe and Oceania display high incidence rates (ASIR, 2.8 and 3.7, respectively) with moderate mortality, underscoring the influence of predominantly Caucasian populations in Europe and mixed ethnic compositions in Oceania.

Conclusions

The disparities in multiple myeloma incidence and mortality rates across regions and ethnic groups underscore the significant impact of genetic predispositions, socioeconomic factors, and health care access on disease outcomes. Efforts to enhance diagnosis, treatment, and health care infrastructure, particularly in under-resourced regions, are critical to addressing these inequalities.

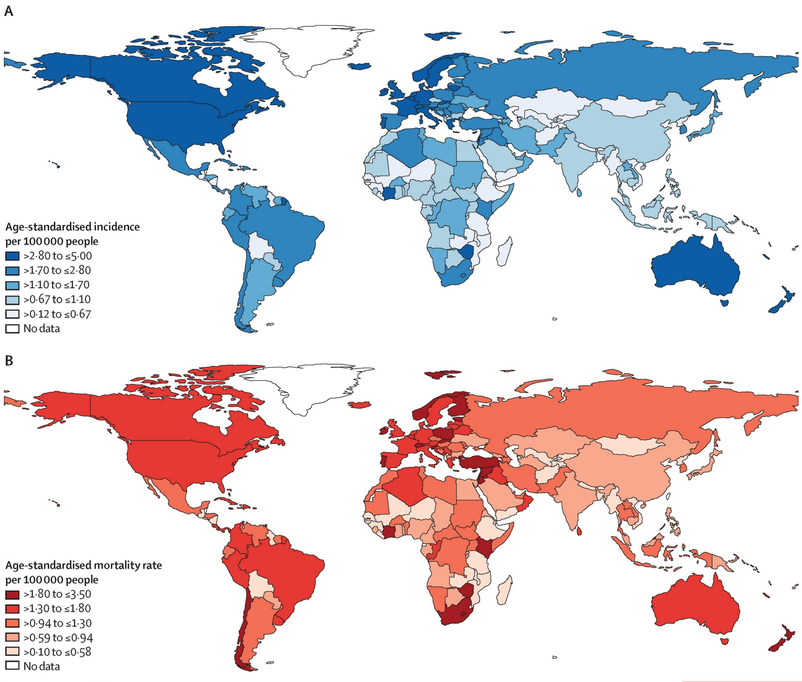


Figure: Global Burden of Multiple Myeloma [1] Huang J et al.

Reference

1.Huang J, Chan SC, Lok V, Zhang L, Lucero-Prisno DE 3rd, Xu W, Zheng ZJ, Elcarte E, Withers M, Wong MCS; Non-communicable Disease Global Health Research Group, Association of Pacific Rim Universities. The epidemiological landscape of multiple myeloma: a global cancer registry estimate of disease burden, risk factors, and temporal trends. Lancet Haematol. 2022 Sep;9(9):e670-e677. doi: 10.1016/S2352-3026(22)00165-X. Epub 2022 Jul 14. PMID: 35843248.