Global Burden of Chronic Myeloid Leukemia and its Trend in Women in 204 countries its Territories from 1990-2021: An insight from the Global Burden of Disease Study 2021

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Background

Chronic Myeloid Leukemia (CML) poses a considerable health challenge globally, with incidence rates in women slightly lower than in men but still significant. This is the first ever study examining the CML trends over a 31-year period in women including the first 2 year of COVID-19 pandemic.

Methodology

We utilized global burden of disease 2021 tool, to estimate the incidence, prevalence, deaths, disability-adjusted life years (DALYs) due to CML by age, year and location across the 204 countries from 1990-2021 in women.

Conclusion

The decreasing trend in mortality and DALYs due to CML in women underscores the effectiveness of advancements in targeted therapies and improved access to healthcare. However, the increase in prevalence highlights a need for ongoing surveillance and resource allocation, especially in regions with rising rates. Addressing the disparities in CML outcomes based on geographic and socio-economic factors is crucial for optimizing global health strategies. Moreover, understanding these trends aids in better resource allocation and health planning, particularly in empowering women's health initiatives to manage long-term implications of chronic diseases like CML.

Results

From 1990-2021, there was an increase in the total number of absolute prevalence counts from 22,162 (with a 95% uncertainty interval of 18,893-25,731) to 26,164 (21,430-31,320). Concurrently, deaths decreased from 13,606 (10,589-16,846) to 10,527 (8,108-14,097), and DALYs decreased from 490,785 (343,224-662,410) to 311,102 (231,840-419,589). Notably, the region of Oceania experienced the highest total percentage of change (TPC) in incidence, increasing by 136%, and deaths increased by 127% from 1990-2021. When considering socio-demographic index (SDI), low SDI countries saw the highest TPC in incidence, increasing by 45%, and deaths by 39%. Nationally, Kuwait had the highest annual percentage of change (APC) in age-standardized incidence rates (ASIR) at 18.52%, followed by age-standardized mortality rates (ASMR) at 17.38% from 1990-2021. Regarding age groups, individuals aged 70-74 years had the highest incidence counts at 1,584 (with a range of 1,275-2,036), while deaths were highest in the 80-84 age group, totaling 1,147 (882-1,471), and DALYs peaked in the 55-59 age group, amounting to 23,497 (16,004-34,655) in 2021.

Global Mortality Rate Due to Chronic Myeloid Leukemia

