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The global incidence and prevalence of chronic myeloid leukemia over the next ten years (2017-2027)

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Objective: The objective of the present study is to estimate the global incidence and prevalence of Chronic Myeloid Leukemia (CML) by world regions over the next ten years using a multi-factorial forecast model.

Methods: Using a critically appraised set of country-specific cancer registries, CML incidence was estimated for 45 countries, representing approximately 90% of the world's population in 2017. Measures of economic development across countries such as gross domestic product (GDP) were considered as key indicators for access to healthcare and the adoption of potentially leukemogenic dietary patterns and lifestyles. Observed correlations between GDP, CML risk, and survival were used to trend CML incidence over the next ten years. CML survival was trended using an attenuated function of the historical trend, representing the continuing optimization of tyrosine kinase inhibitor-based treatment. Prevalence was estimated as a cumulative incidence over preceding twenty years with adjustments for disease-specific and competing-cause mortality for each year. To estimate incident and prevalent CML globally, aggregate estimates for each region were divided by the proportion of countries in that region for which direct estimates were made using the methods described above.

Results: The incidence of CML in Africa, Latin America, lower-income Asia Pacific countries, high-income Asia Pacific countries, Europe, and North America is 0.4, 0.7, 0.7, 1.2, 1.4, and 2 cases per 100,000/year. The prevalence of CML in Africa, Latin America, lower-income Asia Pacific countries, high-income Asia Pacific countries, Europe, and North America is 3, 5, 6, 10, 11, and 15 cases per 100,000 in 2017. Latin America is expected to see the highest growth in prevalent cases over the next ten years: 36% by 2027.

Conclusion: The incidence and prevalence of CML is expected to increase globally. Improvements in the survival of CML patients will result in 20000 additional cases surviving by 2027 worldwide.

Biography

Swarali Tadwalkar has completed her Master's in Public Health (MPH) from University of South Florida, Tampa in 2015. She has an extensive experience in primary and secondary healthcare research stemming from projects in digital health, health policy and management, and health economics and outcomes research (HEOR). She currently works with Decision Resources Group (DRG) as an Associate Epidemiologist with the Epidemiology team and develops epidemiological population forecasts for different infectious and non-communicable diseases with particular interests in the oncology space.

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