Title: Regional variations and trends in hemophilia prevalence: A global analysis with future projection

Authur names: Md Mothashin , Md Golam Hossain , Sajal Chandra Barmon , Md Hasanuzzaman Dipu , Momanin Mohammad Saqlain , Abu Sayed Md Al Mamun

Abastact: Hemophilia is a rare inherited bleeding disorder caused by impaired blood clotting. Studying its prevalence, trends, and projections is vital for healthcare planning, resource allocation, patient outcomes, and understanding the disease's current status and future outlook. This study assessed hemophilia prevalence, trends, and future projections across global regions. This retrospective study used World Federation of Hemophilia (WFH) Global Survey data to estimate prevalence per 100,000 populations with 95% CIs via bootstrap resampling. Temporal trends were assessed with linear regression, joinpoint analysis identified significant changes, and future prevalence was projected by linear extrapolation. The global prevalence of hemophilia increased from 2.75 to 3.75 per 100,000 between 2014 and 2023. Europe had the highest prevalence, rising from 7.14 to 9.16, followed by the Americas (3.93-6.03), Asia (1.56-2.57), and Africa (1.60-1.80). Significant upward trends were observed in Europe, the Americas, and Asia. Country-level peaks were reported in Macedonia (22.02), Canada (10.79), Georgia (9.63), and Mauritius (7.30) within their respective continents. Trend changes were observed in 2015 globally, 2018 in the Americas, and 2020 in Europe and Asia, with prevalence projected to reach 9.66 in Europe, 6.17 in the Americas, 3.12 in Asia, and 4.87 globally by 2030.Global hemophilia prevalence has increased over the past decade, with the highest rates observed in Europe. Rising trends in Europe, the Americas, and Asia are likely driven by multifactorial influences, including improved diagnostic capabilities, increased awareness, enhanced data collection, advances in treatment, and improved survival. With projected growth by 2030, strengthened surveillance, expanded diagnostics, equitable care, and targeted strategies in high-prevalence regions are essential to reduce future burden.

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