SOHO 2025

Trends in Mortality rates of Myeloproliferative disease with Cardiac Failure Patients Aged 25 and Older in the United States: A 21-Year Analysis and Insights from the CDC WONDER Database

Authors: Anisha Manzoor[1], Fatima-tuz-Zahra[1] , Azka Aisha [1](presenter), Fakiha Sultana Malik[1], Syeda Malika Naqvi[1], Fatima Naveed [1], Areej Imtiaz[1] , Tayyaba Abdullah[1],Tayyaba Imran[1], Muhammad Umar [1] , Dr. Shagufta Manzoor [2],Dr. Amjad Manzoor [3],Syed Muhammed Salman Hassan[1]

Affiliations;

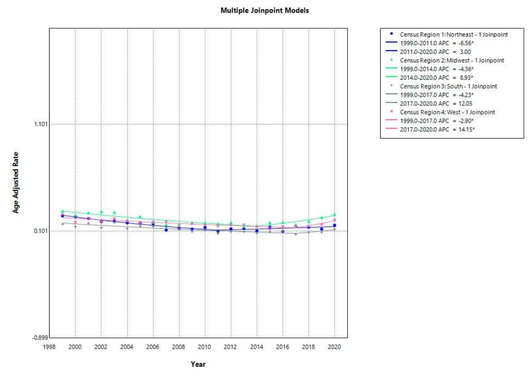
1.Nishtar Medical University, Multan , Pakistan; 2.Multan Medical and Dental college Multan, Pakistan.; 3.United Medical and Dental college, Karahi, Pakistani

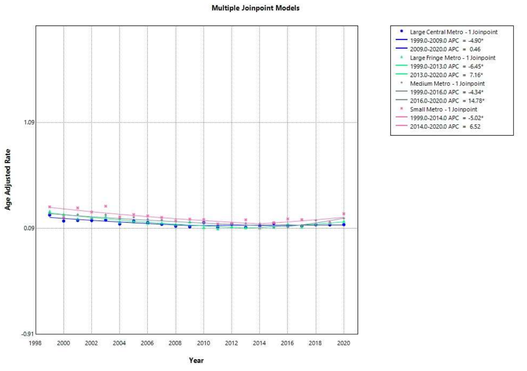
Introduction

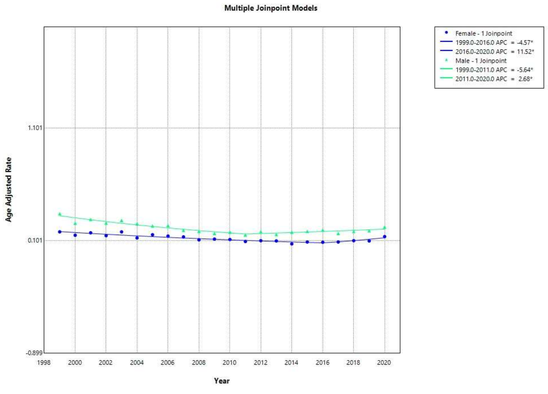
- Myeloproliferative disorders and heart failure remain significant causes of global mortality with varying trends across demographic and geographic groups.
- Understanding these patterns is crucial for effective prevention and intervention strategies

METHODS

- We analyzed CDC WONDER data (1999-2020) for adults aged 25 and older.
- Mortality cases were identified using ICD-10 codes D47 for MPD and ICD-10 codes 150 for heart failure.
- Age-adjusted mortality rates (AAMR) per 100,000 people were categorized by gender, census, urban-rural classification.
- Joinpoint regression calculated annual percent changes (APCs) with 95% confidence intervals (CIs), considering results significant if $p < 0.05$







RESULTS

- Between 1999 and 2020, a total of 7,544 people died with both myeloproliferative disorder and heart failure. Throughout this period, men consistently had higher (AAMRs) than women from -0.3415 for men vs 0.1806 for women in 1999, to 0.2233 for men vs. 0.1385 for women in 2020.
- The overall AAMR showed a decreasing trend early in the period. Among women, AAMRs declined from 1999 to 2016 with an APC of -4.57, followed by an increase from 2016 to 2020 with an APC of 11.52. In men, AAMRs declined from 1999 to 2011 (APC: -5.64) and then increased from 2011 to 2020 (APC: 2.68).
- Regionally, the highest overall AAMR was observed in the Midwest (0.2095), followed by the West (0.1641), Northeast (0.1569), and South (0.1121).
- By urbanization level, Micropolitan areas had the highest AAMR (0.1945), followed by Small metropolitan (0.1837) and Medium metropolitan (0.1521) areas. The lowest AAMRs were observed in Large central metropolitan and Large fringe metropolitan areas (both 0.1359).

CONCLUSION

Mortality linked to myeloproliferative disorders and heart failure has improved overall in the past two decades. However, recent upward trends, especially in women and children, and persistent disparities by gender, region, and urbanization highlight the need for focused strategies on early detection, improved access to care, and interventions to reduce preventable deaths

KEYWORDS

Myeloproliferative disease, cardiac failure, cardiomyopathy, mortality trends, MPN.