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Racial and Sex-Based Disparities and Trends in Common Psychiatric Conditions for Patients With Bone Marrow Transplant Hospitalization in the United States: An 8-Year National Cross-Sectional Study

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INTRODUCTION

Bone marrow transplantation (BMT) is a critical procedure with significant physical and psychological stress. Despite extensive research on medical outcomes, limited clinical evidence exists on psychiatric disorder prevalence and sociodemographic disparities among BMT hospitalized patients. This study aims to evaluate these trends and disparities.

METHOD

The US National Inpatient Sample (NIS) database was analyzed retrospectively from 2012 to 2020. Psychiatric conditions were identified using ICD-9 and ICD-10 codes. Adjusted odds ratios (ORs) with 95% confidence intervals were calculated using logistic regression models to assess sex-based and racial disparities, controlling for potential confounders. Statistical significance was set at $P<.05$.

RESULTS

- The total number of BMT hospitalizations increased consistently, from 15,105 in 2012 to 17,185 in 2020. Trends in psychiatric comorbidities prevalence among BMT hospitalizations revealed a significant increase in generalized anxiety disorder (GAD) from 0.20% in 2012 to 1.43% in 2020, and depression from 10.59% to 12.57%.
- In BMT hospitalizations, females had higher odds of GAD (OR, 1.85; CI, 1.63-2.09; $P<.001$), bipolar disorder (OR, 1.98; CI, 1.67-2.34; $P<.001$), depression (OR, 1.95; CI, 1.88-2.01; $P<.001$), schizoaffective disorder (OR, 1.75; CI, 1.10-2.79; $P=.01$), and PTSD (OR, 1.18; CI, 1.01-1.37; $P=.02$) compared with males. Conversely, females had lower odds of ADHD (OR, 0.87; CI, 0.75-1.01; $P=.07$) and schizophrenia (OR, 0.55; CI, 0.39-0.77; $P=.0006$). There was no significant difference between the sexes for chronic fatigue (OR, 1.008; CI, 0.74-1.35; $P=.95$).
- In BMT hospitalizations, compared with White race, Black race had lower odds for GAD (OR, 0.321; $P<.001$), depression (OR, 0.494; $P<.001$), and bipolar disorder (OR, 0.376; $P<.001$), and Hispanic race had lower odds for GAD (OR, 0.712; $P=.0024$), depression (OR, 0.577; $P<.0001$), and ADHD (OR, 0.391; $P<.001$). Black patients had higher odds for schizophrenia (OR, 2.160; $P=.0002$).
- Regional psychiatric prevalence among BMT patients in the South rose from 30.52% to 32.27%. The Midwest saw a slight decrease from 25.89% to 25.87%, while the Northeast dropped from 23.80% to 21.36%

CONCLUSIONS

The study reveals increasing GAD and depression trends in BMT hospitalizations (2012-2020), with significant sex and racial disparities. Females had higher odds for several conditions, while Black and Hispanic patients had lower odds of GAD and depression but higher odds of schizophrenia. The South had the highest psychiatric hospitalization prevalence.

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