Psychiatric Comorbidities and In-Patient Outcomes in Adults With Hematologic Malignancies: Analysis of the National Inpatient Sample 2016-2020

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Introduction

Psychiatric disorders such as depression, anxiety, and schizophrenia are common in cancer patients. However, their effect on inpatient outcomes in hematologic malignancy (HM) populations is unclear.

This study aims to evaluate how psychiatric comorbidities influence mortality, complications, and resource use during HM hospitalizations.

Significance and Innovation

Psychiatric illness has been linked to reduced quality of life and delayed cancer treatment. Some research paradoxically shows lower mortality, possibly due to increased surveillance or earlier presentation. Mental illness may also correlate with frailty, malnutrition, or increased LOS. To date, no large-scale studies have examined these effects in HM admissions specifically.

This will be the first national analysis of psychiatric illness in HM hospitalizations. Results will support more integrated mental health screening and potentially improved outcomes through psychosocial interventions.

Methods

Adult (≥18 years) hospitalizations with a diagnosis of acute leukemia, lymphoma, multiple myeloma, or myeloproliferative neoplasms were identified in the 2016-2020 National Inpatient Sample. Psychiatric comorbidity ("psy") was defined by ICD-10-CM codes for depression, bipolar disorder, anxiety, or schizophrenia. Survey-weighted multivariable logistic regression adjusted for demographics, hospital characteristics, substance use, and medical comorbidities. The primary outcome was in-hospital death; secondary outcomes were prolonged length of stay (LOS ≥ 75th percentile), malnutrition, frailty, sepsis, and mechanical ventilation.

Results

The investigated cohort comprised 3,066,994 weighted admissions; 22.1 % (n = 678,026) had a psychiatric diagnosis. Psychiatric patients were slightly older (mean 60.2 vs 59.9 years) and more often female (57 % vs 43 %, P<0.001). Crude mortality was found to be lower in the psychiatric group (3.8 % vs 4.8 %, P<0.001).

After adjustment, psychiatric comorbidity remained independently associated with reduced odds of death (adjusted odds ratio [aOR] 0.89, 95 % confidence interval [CI] 0.86–0.92; P < 0.001).

Conversely, psy patients had greater odds of prolonged LOS (aOR 1.45, 95 % CI 1.36–1.55, P<0.001), malnutrition (aOR 1.18, 95 % CI 1.13–1.22, P<0.001), and frailty (aOR 1.28, 95 % CI 1.12–1.46, P<0.001).

No significant adjusted differences were observed for sepsis (aOR 1.01, P = 0.41) or mechanical ventilation (aOR 0.94, P = 0.34).

Impact of Psychiatric Comorbidities on Inpatient Outcomes

Outcome	Adjusted OR (95% CI)	P-value
Mortality	0.89 (0.86–0.92)	<0.001
Prolonged LOS	1.45 (1.36–1.55)	<0.001
Malnutrition	1.18 (1.13–1.22)	<0.001
Frailty	1.28 (1.12–1.46)	<0.001
Sepsis	1.01	0.41
Mechanical Ventilation	0.94	0.34

Discussion

Approximately one in five U.S. hematologic-malignancy hospitalizations involves a psychiatric disorder. Despite higher risks of malnutrition, frailty, and prolonged hospitalization, these patients experienced an 11 % lower adjusted risk of in-hospital death. The paradoxical survival advantage may reflect earlier presentation, closer monitoring, or unmeasured biologic factors and warrants prospective study. Integrating mental-health and nutritional support into oncologic care pathways could further improve outcomes.

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