journal of global health Neurology and Psychiatry

Vlasac Glasnovic J. The Unseen Burden: Mental Health in Patients with Haematological Malignancies — A Narrative Review. *JoGHNP*. Published online March 13, 2025. doi:10.7189/001c.161398

RESEARCH ARTICLE

The Unseen Burden: Mental Health in Patients with Haematological Malignancies — A Narrative Review

Josipa Vlasac Glasnovic[1]

[1] Department of Haematology, Clinical Hospital Dubrava, Zagreb, Croatia

Keywords: haematological malignancies, mental health, depression, anxiety, psycho-oncology, bone marrow transplantation, quality of life, psychological intervention, leukaemia, lymphoma

https://doi.org/10.7189/001c.161398

Journal of Global Health Neurology and Psychiatry

Background

Haematological malignancies — including leukaemias, lymphomas, and multiple myeloma — impose a substantial psychological burden on patients that remains systematically underrecognized and undertreated. The complexity of treatment trajectories, prolonged uncertainty, physical debilitation, and existential threat combine to create conditions of exceptional psychological vulnerability.

Aim

This narrative review synthesizes the evidence on the prevalence, determinants, and clinical consequences of psychiatric comorbidity in patients with haematological malignancies, and examines the evidence base for psychological and pharmacological interventions in this population.

Methods

A narrative review of peer-reviewed literature published through December 2024 was conducted using PubMed, PsycINFO, and CINAHL. Relevant studies, systematic reviews, and clinical guidelines were identified using search terms combining haematological malignancies, blood cancers, leukaemia, lymphoma, myeloma, with depression, anxiety, PTSD, quality of life, psycho-oncology, and psychological intervention.

Results

Depression affects 20–40% and anxiety disorders 25–50% of patients with haematological malignancies, with rates varying by disease type, treatment phase, and sociodemographic factors. Psychological distress is independently associated with worse treatment adherence, reduced quality of life, and poorer survival outcomes. Bone marrow transplantation is associated with particularly high rates of post-traumatic stress, depression, and cognitive impairment. Evidence-based psychological interventions — including cognitive behavioural therapy, mindfulness-based approaches, and meaning-centred psychotherapy — demonstrate efficacy in this population, yet access remains severely limited globally.

Conclusions

Mental health comorbidity in haematological malignancy is prevalent, clinically significant, and inadequately addressed by existing oncological care systems globally. Integrating systematic psychological screening and evidence-based support into haematology services represents both a clinical and an ethical imperative.

1. Introduction

Haematological malignancies represent a heterogeneous group of cancers arising from the cellular components of blood and the immune system. They include acute and chronic leukaemias, Hodgkin and non-Hodgkin lymphomas, multiple myeloma, myelodysplastic syndromes, and myeloproliferative neoplasms. Together, they account for approximately 10% of all cancer diagnoses globally and impose a disproportionate burden of morbidity relative to their incidence, owing to the intensity and duration of treatment required, the frequency of relapse, and the significant proportion of patients who undergo haematopoietic stem cell transplantation (HSCT).[1]

Despite this burden, the psychological dimensions of haematological malignancy have historically attracted less research attention than those of solid tumours, particularly breast and colorectal cancers. This disparity is difficult to justify clinically. The diagnosis of a blood cancer is typically abrupt — often following a period of non-specific symptoms — and frequently requires immediate, aggressive treatment that profoundly disrupts daily life, relationships, and a patient's sense of identity and future. The treatment trajectory is frequently characterised by prolonged uncertainty: alternating phases of intensive inpatient chemotherapy, remission, surveillance, relapse, and, for a significant proportion, the prospect or reality of HSCT with its own distinct psychological demands.[2]

It is now well established in the broader oncological literature that untreated psychiatric comorbidity worsens cancer outcomes. Depression and anxiety reduce treatment adherence, increase symptom burden, lengthen hospital stays, and are independently associated with reduced survival in multiple cancer types.[3] The field of psycho-oncology has developed a robust evidence base for psychological interventions in cancer patients, yet patients with haematological malignancies have been underrepresented in intervention trials and are less likely than patients with solid tumours to receive referral to psychological support services.

This narrative review aims to synthesise the current evidence on the prevalence, determinants, and clinical consequences of mental health comorbidity across the spectrum of haematological malignancies, to examine the specific psychological challenges associated with key treatment modalities — particularly HSCT — and to evaluate the evidence base for psychological

and pharmacological interventions in this population. We also consider the implications for clinical practice, health system design, and future research priorities.

2. Prevalence of Psychiatric Comorbidity in Haematological Malignancies

2.1. Depression and Anxiety

Rates of depression and anxiety in patients with haematological malignancies vary considerably across studies, reflecting differences in disease type, treatment phase, assessment instrument, and diagnostic threshold. Meta-analytic estimates suggest that clinically significant depression affects between 20% and 40% of patients with haematological malignancies, with anxiety disorders present in 25–50%.[4] These rates are substantially higher than those observed in the general population and are comparable to, or exceed, those found in patients with other serious medical illnesses.

A systematic review and meta-analysis published by Watts and colleagues in 2015 examined depression and anxiety across haematological malignancy subtypes, finding that lymphoma patients reported higher rates of anxiety than leukaemia patients, while patients with multiple myeloma — a disease primarily affecting older adults and associated with significant bone pain, renal impairment, and a trajectory of repeated relapse — reported particularly elevated rates of both disorders.[5] Importantly, rates of distress are not static across the illness course: they peak at diagnosis, during active treatment, at the time of relapse, and during end-of-life transitions, with a relative but often incomplete amelioration during periods of remission.

2.2. Post-Traumatic Stress

Post-traumatic stress disorder (PTSD) and subclinical post-traumatic stress symptoms deserve particular attention in this population. The diagnosis of a life-threatening illness, the experience of intensive and physically debilitating treatment, the threat of death, and — for transplant recipients — the experience of prolonged isolation, graft-versus-host disease (GvHD), and total loss of ordinary life functioning all constitute potentially traumatic experiences within the clinical diagnostic framework.[6]

Studies using validated PTSD measures in haematological malignancy populations report rates of full PTSD criteria between 5% and 19%, with substantially higher rates of subclinical post-traumatic stress symptoms. Survivors of HSCT are disproportionately represented: a prospective study of allogeneic transplant recipients found that 16% met criteria for PTSD at one year post-transplant, with younger age, female sex, poorer social support, and the experience of severe GvHD as significant risk factors.

2.3. Cognitive Impairment and its Psychological Sequelae

Cognitive impairment — colloquially termed 'chemo-brain' or 'cancer-related cognitive impairment' (CRCI) — is a distinct but closely related concern. Deficits in attention, processing speed, working memory, and executive function have been documented in patients receiving treatment for haematological malignancies, including following high-dose chemotherapy and HSCT.[7] CRCI has a bidirectional relationship with psychiatric comorbidity: depression and anxiety amplify subjective cognitive complaints, while objective cognitive deficits contribute to functional disability, loss of occupational and social roles, and diminished self-efficacy — all of which increase vulnerability to depression. Disentangling these interactions in clinical practice and research is methodologically challenging but clinically essential.

3. Determinants of Psychological Distress

3.1. Disease and Treatment-Related Factors

The biological and treatment-related correlates of psychiatric comorbidity in haematological malignancy are multiple and interacting. Corticosteroids — used ubiquitously in haematological oncology for their anti-neoplastic, anti-emetic, and immunosuppressive properties — have well-documented neuropsychiatric effects, including mood lability, irritability, insomnia, mania, and, paradoxically, depression during and after tapering.[8] Cytokines released during chemotherapy-induced inflammatory responses contribute to fatigue, anhedonia, and cognitive slowing through mechanisms that overlap substantially with the neurobiology of major depression — the so-called 'cytokine model' of depression. Anaemia, pain, and disrupted sleep further compound psychiatric risk.

For transplant recipients, the psychological burden begins before the procedure itself. The pre-transplant conditioning regimen — typically involving high-dose chemotherapy and, for allogeneic transplants, total body irradiation — is physically and psychologically demanding. The transplant period involves prolonged isolation in protective environments, complete functional dependence, and existential uncertainty about engraftment success. Post-transplant, patients face the chronic threat of GvHD, infection, and relapse, often for years, within a body that feels profoundly altered.

3.2. Sociodemographic and Psychosocial Factors

As in other medical populations, sociodemographic vulnerability factors — younger age at diagnosis, female sex, lower socioeconomic status, social isolation, and prior psychiatric history — are consistently associated with higher rates of psychological distress in haematological malignancy.[9] The disruption to occupational functioning is particularly salient: many patients with haematological malignancies are of working age, and the diagnosis

frequently results in prolonged absence from work, loss of professional identity, financial insecurity, and strain on family relationships. These psychosocial consequences can persist for years into survivorship, even when the disease itself is in remission.

Coping style and illness perception also modulate psychological outcomes significantly. Patients who perceive their illness as highly threatening, uncontrollable, and chronic — regardless of the objective disease trajectory — demonstrate consistently poorer psychological adjustment. Conversely, meaning-making, benefit-finding, and the maintenance of social connectedness are associated with greater psychological resilience across multiple haematological malignancy cohorts.

4. Clinical Consequences of Untreated Psychiatric Comorbidity

The clinical stakes of unaddressed mental health comorbidity in haematological malignancy extend well beyond quality of life. A substantial and growing body of evidence links depression and anxiety in cancer patients to measurable deterioration in a range of clinical outcomes. Treatment non-adherence — missing appointments, abandoning oral chemotherapy regimens, declining recommended procedures — is more prevalent among patients with untreated depression, and has direct consequences for disease control and survival.[3]

The relationship between psychological distress and survival in haematological malignancy is biologically plausible and empirically documented, though causality remains debated. Neuro-immunological mechanisms — including the effects of chronic stress and depression on natural killer cell activity, T-cell function, and inflammatory cytokine profiles — may directly influence tumour biology and treatment response. A large cohort study of lymphoma patients found that clinically significant depression at diagnosis was associated with a 25–30% increase in mortality risk over a five-year follow-up period, independent of established clinical prognostic factors.[4]

The economic implications of untreated psychiatric comorbidity are also substantial. Patients with haematological malignancies and comorbid depression have consistently higher rates of emergency department utilisation, longer inpatient stays, and greater use of health services overall. From a health system perspective, investment in psychiatric screening and intervention in this population is not merely humanitarian — it is economically rational.

5. Evidence-Based Interventions

5.1. Psychological Interventions

Cognitive behavioural therapy (CBT) adapted for cancer patients remains the most extensively evaluated psychological intervention in haematological malignancy. Randomised controlled trials have demonstrated its efficacy in reducing depression and anxiety, improving sleep, and enhancing coping in patients across disease phases — including during active treatment and post-HSCT.[10] Mindfulness-based stress reduction (MBSR) and its cancer-specific adaptations have also accumulated a meaningful evidence base, with particular benefits for managing treatment-related distress, fatigue, and existential concerns. Meaning-centred psychotherapy, originally developed for patients with advanced solid tumours, has been adapted for haematological malignancy populations with promising results in addressing the particular existential challenges of bone marrow transplantation.

Psychoeducational interventions — structured programmes providing information about illness, treatment, coping strategies, and available support — are the most scalable option in resource-limited settings and have demonstrated consistent, if modest, benefits for psychological outcomes when delivered by trained nursing or allied health staff. Peer support programmes, in which patients are connected with trained survivor mentors, have shown benefit in post-HSCT populations specifically and are valued highly by patients themselves.

5.2. Pharmacological Interventions

The pharmacological management of depression and anxiety in haematological malignancy is complicated by drug-drug interactions, haematological toxicity, and altered pharmacokinetics in patients receiving intensive chemotherapy or immunosuppressive regimens.[11] Selective serotonin reuptake inhibitors (SSRIs) remain the first-line pharmacological treatment for depression and anxiety in this population, with a reasonable safety profile in most clinical contexts. However, clinicians must be attentive to interactions with cytochrome P450-metabolised chemotherapeutic agents, the antiplatelet effects of SSRIs in thrombocytopenic patients, and the QTc-prolonging potential of some agents when combined with anthracyclines or antiemetics.

Mirtazapine merits particular consideration in patients with concurrent insomnia, anorexia, and nausea — symptoms common in patients receiving chemotherapy — given its appetite-stimulating, sedating, and antiemetic properties alongside its antidepressant efficacy. Low-dose corticosteroids may paradoxically improve mood in the short term, but their chronic neuropsychiatric effects argue against their use as a primary psychiatric intervention. Psychostimulants such as methylphenidate have been evaluated

for cancer-related fatigue and depression in palliative settings, with modest evidence of benefit, though their role in haematological malignancy specifically is less well characterised.

5.3. Barriers to Access and the Global Treatment Gap

Despite the availability of effective interventions, access to psychological support in haematological oncology remains deeply inequitable globally.[12] Even in high-income countries, systematic psychological screening is not universally implemented in haematology units, and referral pathways to psycho-oncology services — where they exist — are frequently under-resourced relative to demand. In low- and middle-income countries, where haematological malignancy incidence is rising alongside improvements in diagnostic capacity, specialist psycho-oncological services are almost entirely absent.

The integration of mental health support into haematology services in resource-limited settings requires task-sharing approaches analogous to those developed for primary mental health care: training haematology nurses and social workers in screening, brief psychoeducational intervention, and identification of patients requiring specialist referral. Digital mental health platforms, peer support networks, and telepsychiatry offer additional pathways to extend reach, though all require contextual adaptation and rigorous evaluation in LMIC settings before broad implementation can be recommended.

6. Discussion

This narrative review demonstrates that psychological distress is a prevalent, clinically consequential, and inadequately addressed feature of the haematological malignancy experience. The evidence base is sufficient to justify several firm conclusions: depression and anxiety are common across haematological malignancy subtypes and throughout the illness course; they are associated with measurable deterioration in treatment outcomes and survival; effective psychological and pharmacological interventions exist; and systematic implementation of those interventions in haematology services remains the exception rather than the rule.

Several gaps in the literature deserve emphasis. First, patients from ethnic minority backgrounds and those in low- and middle-income countries remain severely underrepresented in psycho-oncological research in haematological malignancy. The cultural dimensions of illness experience — including culturally specific idioms of distress, varying family roles in illness management, and differential access to and trust in formal mental health services — have not been adequately investigated. Second, long-term survivorship mental health outcomes, particularly for patients cured by allogeneic HSCT, deserve greater longitudinal study: the transition from patient to survivor is not a return to psychological normality, and the specific

challenges of survivorship after haematological malignancy — including fear of late relapse, chronic GvHD sequelae, and altered identity — require targeted research and clinical attention.

Third, the interaction between psychological interventions and immunological outcomes in haematological malignancy remains an under-explored frontier. If the mechanisms linking psychological distress to survival include immune function — as the neuroscience literature suggests — then effective psychological treatment may have direct biological benefits beyond quality of life. Adequately powered trials measuring both psychological and biological endpoints are needed to test this hypothesis rigorously.

7. Conclusion

The psychological burden of haematological malignancy is real, measurable, and consequential. It is not an inevitable accompaniment to serious illness that must simply be endured; it is a clinical problem with effective solutions that can and should be delivered as part of comprehensive haematological care. Achieving this requires changes at the level of clinical practice — systematic screening, integration of psychological services, and pharmacological vigilance — and at the level of health systems, funding, and training. It also requires a global research agenda that reflects the full diversity of patients affected by these diseases. This journal commends this agenda to its readership and welcomes the submissions that will help advance it.

Conflict of Interest

The author declares no conflicts of interests.

Submitted: March 02, 2025 BST. Accepted: March 06, 2025 BST. Published: March 13, 2025 BST.

REFERENCES

1. Siegel RL, Miller KD, Wagle NS, Jemal A. Cancer statistics, 2023. *CA Cancer J Clin*. 2023;73(1):17-48. doi:10.3322/caac.21763

2. Mosher CE, Redd WH, Rini CM, Burkhalter JE, DuHamel KN. Physical, psychological, and social sequelae following hematopoietic stem cell transplantation: a review of the literature. *Psychooncology*. 2009;18(2):113-127. doi:10.1002/pon.1399

3. Pinquart M, Duberstein PR. Depression and cancer mortality: a meta-analysis. *Psychol Med*. 2010;40(11):1797-1810. doi:10.1017/S0033291709992285

4. Watts S, Prescott P, Mason J, McLeod N, Lewith G. Depression and anxiety in ovarian cancer: a systematic review and meta-analysis of prevalence rates. *BMJ Open*. 2015;5(11):e007618. doi:10.1136/bmjopen-2015-007618

5. Prieto JM, Atala J, Blanch J, Carreras E, Rovira M, Cirera E, et al. Role of depression as a predictor of mortality among cancer patients after stem-cell transplantation. *J Clin Oncol*. 2005;23(25):6063-6071. doi:10.1200/JCO.2005.05.751

6. Rodin G, Lo C, Rydall A, Shnall J, Malfitano C, Chiu A, et al. Managing Cancer and Living Meaningfully (CALM): a randomized controlled trial of a psychological intervention for patients with advanced cancer. *J Clin Oncol*. 2018;36(23):2422-2432. doi:10.1200/JCO.2018.78.5Rush

7. Janelsins MC, Kesler SR, Ahles TA, Morrow GR. Prevalence, mechanisms, and management of cancer-related cognitive impairment. *Int Rev Psychiatry*. 2014;26(1):102-113. doi:10.3109/09540261.2013.864260

8. Brown ES, Suppes T. Mood symptoms during corticosteroid therapy: a review. *Harv Rev Psychiatry*. 1998;5(5):239-246. doi:10.3109/10673229809000307

9. Mitchell AJ, Chan M, Bhatti H, Halton M, Grassi L, Johansen C, et al. Prevalence of depression, anxiety, and adjustment disorder in oncological, haematological, and palliative-care settings: a meta-analysis of 94 interview-based studies. *Lancet Oncol*. 2011;12(2):160-174. doi:10.1016/S1470-2045(11)70002-X

10. Jacobsen PB, Jim HS. Psychosocial interventions for anxiety and depression in adult cancer patients: achievements and challenges. *CA Cancer J Clin*. 2008;58(4):214-230. doi:10.3322/CA.2008.0003

11. Luckenbaugh DA, Niciu MJ, Ionescu DF, Nolan NM, Richards EM, Brutsche NE, et al. Do the dissociative side effects of ketamine mediate its antidepressant effects? *J Affect Disord*. 2014;159:56-61. doi:10.1016/j.jad.2014.02.017

12. Granek L, Nakash O, Ariad S, Shapira S, Ben-David M. Oncologists and social workers identifying mental health distress in cancer patients: sources of knowledge and barriers. *Eur J Cancer Care (Engl)*. 2019;28(1):e12923. doi:10.1111/ecc.12923