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Explaining the Lived Experiences of Patients with Hematologic Malignancies with an Emphasis on the Role of Cognitive Flexibility in Improving Quality of Life: A Qualitative Study

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ABSTRACT

Objective: Patients with hematologic malignancies, particularly during aggressive treatments such as hematopoietic stem cell transplantation, face extensive physical, psychological, and social challenges that significantly affect their quality of life. The present study aimed to explore the lived experiences of these patients, with an emphasis on the role of cognitive flexibility in improving quality of life.

Methods: This study was conducted using a qualitative approach and an interpretative phenomenological methodology. Participants included patients with hematologic malignancies who were hospitalized in the hematopoietic stem cell transplantation unit. Data were collected through semi-structured interviews and analyzed using thematic analysis.

Results: Data analysis led to the identification of several core themes highlighting the central role of cognitive flexibility in patients' quality of life experiences. These themes included redefining the meaning of illness, acceptance of reality accompanied by hope, modification of maladaptive cognitive patterns, and active adaptation to treatment-related limitations. Cognitively flexible patients demonstrated a greater ability to regulate emotions, reduce perceived stress, and maintain a sense of meaning and purpose in life.

Conclusions: Cognitive flexibility, as a key psychological resource, plays a significant role in improving the quality of life of patients with hematologic malignancies. Designing supportive and psychological interventions focused on enhancing cognitive flexibility may contribute substantially to improving the quality of life of these patients.

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Introduction

Hematologic malignancies, encompassing various types of leukemia, lymphoma, and multiple myeloma, represent some of the most complex and challenging chronic and life-threatening diseases. These disorders exert profound burdens on patients, not only due to their progressive and unpredictable nature but also because of demanding, long-term, and often aggressive therapeutic regimens. Among the most advanced and effective treatments in this field is hematopoietic stem cell transplantation (HSCT), which, while capable of significantly improving patients' survival and recovery prospects, is also accompanied by severe physical complications, social restrictions, prolonged isolation, and substantial psychological distress (El-Jawahri et al., 2021).

The HSCT process typically involves high-dose chemotherapy, extended hospitalization, isolation in sterile rooms, and the endurance of distressing physical symptoms such as pain, nausea, profound fatigue, and infection risk. Moreover, patients face fears related to transplant complications, graft rejection, disease relapse, and mortality. Collectively, these factors create a multilayered and complex experience of physical and psychological suffering that extends beyond measurable biomedical indicators (Majhail et al., 2019). Consequently, in recent years, health systems and researchers have shifted their focus from merely "survival outcomes" toward a broader understanding and improvement of patients' quality of life (QoL).

Quality of life is a multidimensional construct encompassing physical, psychological, social, and spiritual domains of human experience. It reflects an individual's subjective evaluation of their overall life condition. In oncology, QoL is recognized as a major treatment outcome and a pivotal indicator of supportive care quality (Psyllidis et al., 2020). Empirical evidence indicates that patients with hematologic malignancies—particularly during the pre- and post-transplantation phases—experience significant declines in QoL, reporting elevated levels of anxiety, depression, loneliness, and helplessness (Wang et al., 2022).

Nonetheless, patients' responses to these highly stressful circumstances vary considerably. Some individuals, despite the severity of illness and treatment intensity, demonstrate greater psychological adaptability, maintain hope, and reconstruct a meaningful sense of life. Others, in contrast, experience profound distress, cognitive rumination, and sharp declines in their quality of life. These variations have drawn scholarly attention to the pivotal influence of psychological and cognitive factors in shaping illness experiences. A key construct in this regard is cognitive flexibility.

Cognitive flexibility refers to an individual's capacity to shift perspectives, reframe thought patterns, consider alternative interpretations, and adapt mentally to novel or stressful situations (Martin & Rubin, 1995). It allows individuals to distance themselves from rigid, catastrophic cognitive schemas and to employ more adaptive strategies in emotion regulation and decision-making. Within the context of chronic and life-threatening illnesses, cognitive flexibility may play a crucial role in mitigating stress, enhancing emotional regulation, and maintaining quality of life (Dennis & Vander Wal, 2010).

Studies have demonstrated positive associations between cognitive flexibility and variables such as resilience, hope, emotion regulation, and psychological well-being. It can buffer the detrimental impacts of intense stress on mental health outcomes (Bacıoğlu & Kocabıyık, 2024). Among cancer patients, higher cognitive flexibility is linked to greater acceptance of illness, meaning-making in suffering, and more adaptive coping with treatment limitations. Such patients are often better able to reconcile acceptance of their condition with sustained hope and the redefinition of life goals.

However, much of the existing research in this domain has been quantitative, focusing primarily on statistical relationships among variables. Although these studies provide valuable insights, they fall short of explaining the nuanced, multilayered lived experiences of patients. The transplantation experience involves complex, context-dependent phenomena—such as fear, isolation, interaction with healthcare professionals, adequacy of information, family support, and existential transformation—that require qualitative inquiry for deeper understanding.

Existing qualitative findings suggest that patients with hematologic malignancies undergo a broad spectrum of emotional experiences throughout their treatment trajectory—from the initial shock and denial following diagnosis to anxiety, loneliness, despair, and, eventually, gradual acceptance. Some patients consciously avoid certain medical information (e.g., potential side effects) to reduce anxiety, whereas others identify insufficient information as a source of distress and dissatisfaction. These differences highlight the active role of patients' cognition in interpreting and managing their illness experiences.

Furthermore, patients' interactions with healthcare providers and the hospital environment are pivotal in shaping their perceived quality of life. Empathic behaviors, transparent communication, and humane attention can foster security and comfort, whereas negligence, impersonal interactions, or poor communication exacerbate anxiety and feelings of devaluation. Patients with higher cognitive flexibility often show greater capability to reconcile conflicting emotions and maintain psychological equilibrium within these interactions.

Family support constitutes another major psychosocial resource for patients. Yet, it is not uniformly experienced—overprotection, family anxiety, or insufficient emotional expression may themselves become sources of stress. How patients interpret and adapt to these support dynamics again underscores the importance of cognitive processes and mental flexibility.

Taken together, cognitive flexibility appears to be not merely an abstract psychological construct but a dynamic, lived capacity that emerges within the interaction of individual, familial, and clinical contexts in hematologic malignancy. Nonetheless, only a limited number of studies have specifically explored the lived experience of patients with such conditions through the lens of cognitive flexibility—especially within qualitative frameworks and in cultural contexts such as Iran.

Accordingly, the present study adopts a qualitative approach aimed at elucidating the lived experiences of patients with hematologic malignancies, emphasizing the role of cognitive flexibility in their quality-of-life adaptation. By listening to patients' voices and deeply analyzing their narratives, this research seeks to construct a comprehensive understanding of how individuals cognitively and emotionally adapt to illness, treatment, and its consequences, thereby providing context-specific evidence to inform supportive and psychological interventions.

Material and Methods

The present study employed a mixed-methods design with an explanatory–exploratory approach. In this design, the quantitative phase was first conducted to test the structural model of quality of life among patients with hematologic malignancies. Subsequently, a qualitative phase was implemented to provide a deeper interpretation of the quantitative findings and to better understand patients lived experiences.

The use of a mixed-methods approach enabled the examination of statistical relationships among variables through quantitative data while simultaneously clarifying the psychological, emotional, and social mechanisms influencing patients' quality of life from their own perspectives (Creswell & Plano Clark, 2018).

The qualitative component of the study focused on the lived experiences of patients with hematologic malignancies during hospitalization in the hematopoietic stem cell transplantation (HSCT) unit, with particular emphasis on the role of perceived social support and cognitive flexibility in improving quality of life.

Qualitative Approach

The qualitative phase was conducted using Interpretative Phenomenological Analysis (IPA). This approach is particularly suitable for exploring individuals' deep, personal, and meaning-making experiences when confronting complex and stressful phenomena such as life-threatening illnesses (Smith, Flowers, & Larkin, 2009). IPA emphasizes understanding the meaning of experiences from the participants' perspectives while also incorporating the researcher's interpretative engagement with participants' narratives.

Participants and Sampling: Participants were patients diagnosed with hematologic malignancies who were hospitalized in the hematopoietic stem cell transplantation unit of a specialized medical center at the time of the study.

Participants were selected through purposive sampling with maximum variation, considering factors such as age, gender, type of hematologic malignancy, and duration of hospitalization.

Inclusion criteria were:

Confirmed diagnosis of a hematologic malignancy

Hospitalization in the hematopoietic stem cell transplantation unit

Ability to communicate verbally

Willingness to participate and provide informed consent

Exclusion criteria were:

Severe physical instability

Severe cognitive impairment or inability to respond to interview questions

Participant recruitment continued until data saturation was achieved, meaning that additional interviews no longer generated new codes or themes (Guest, Bunce, & Johnson, 2006).

Data Collection: Data in the qualitative phase were collected through in-depth semi-structured interviews. The interview guide was developed based on the study objectives, qualitative research questions, and the conceptual framework of the study.

The main interview topics included:

Patients' feelings and thoughts during the hospitalization period

Experiences of quality of life under isolation conditions

The role of social support (emotional, informational, and instrumental) from family members and healthcare staff

Patients' experiences of stress, illness perception, and adaptation to treatment

The role of cognitive flexibility in managing emotions and accepting the illness

Interviews were conducted in a quiet environment while taking into account the patient's physical condition. Each interview lasted approximately 30 to 60 minutes. With participants' consent, all interviews were audio-recorded and subsequently transcribed verbatim.

Data Analysis: Qualitative data were analyzed using thematic analysis following the framework proposed by Braun and Clarke (2006). The analysis involved the following steps:

1. Familiarization with the data through repeated reading of interview transcripts
2. Generating initial codes
3. Organizing codes into subthemes
4. Identifying and naming overarching themes
5. Reviewing and refining themes
6. Interpreting the themes and relating them to the study's theoretical framework

Data analysis was conducted concurrently with data collection, allowing the interview process to be refined and emerging concepts to be explored in greater depth.

To enhance the credibility and trustworthiness of the findings, the criteria proposed by Lincoln and Guba (1985)—credibility, transferability, dependability, and confirmability—were applied. Strategies such as member checking, peer review, and detailed documentation of the analytical process were employed.

Ethical Considerations

The study was conducted after obtaining the necessary ethical approvals. All participants received detailed information about the purpose of the study, confidentiality of their information, and their right to withdraw from the study at any time. Informed consent was obtained from all participants, and all identifying information was kept strictly confidential.

Results

The qualitative data obtained from the semi-structured interviews with patients diagnosed with hematologic malignancies who had undergone hematopoietic stem cell transplantation were analyzed using thematic analysis. The analysis led to the identification of three overarching themes, each comprising several organizing themes and sets of basic themes. Collectively, these themes illustrate various dimensions of patients lived experiences in confronting illness, treatment, and its consequences, with emphasis on the role of cognitive flexibility in improving quality of life.

The overarching themes were:

1. Psychological reactions and processes in confronting the illness
2. Coping strategies and the development of resilience
3. Cognitive and psychological adaptation to limitations and the reconstruction of quality of life

1. Psychological Reactions and Processes in Confronting the Illness

This overarching theme describes patients' initial and ongoing experiences following the diagnosis of hematologic malignancy and their entry into the treatment trajectory, particularly the transplantation process. The findings showed that patients initially experienced psychological shock, fear of death, intense anxiety, and a sense of helplessness. For many participants, the diagnosis represented an abrupt rupture from ordinary life and a collapse of psychological security and perceived control.

1.1. Shock of Diagnosis and the Collapse of Psychological Security

Participants described the moment of diagnosis as a defining turning point marked by disbelief, intense fear, and confusion. The future appeared uncertain and threatening, and their quality of life declined suddenly and sharply.

1.2. Treatment-Related Anxiety and Fear of Consequences

The transplantation process, treatment side effects, isolation, and uncertainty regarding treatment outcomes heightened patients' anxiety. Many spoke about fears of relapse, graft rejection, and even death. These concerns often manifested as persistent mental rumination.

1.3. Experience of Loneliness and Social Disconnection

Prolonged hospitalization and isolation conditions intensified feelings of loneliness and social withdrawal. Patients felt detached from the normal flow of life and their social relationships, contributing significantly to a reduced quality of life.

2. Coping Strategies and the Development of Resilience

The second overarching theme highlights the strategies patients employed to manage psychological distress and maintain emotional stability. Findings revealed that, over time, patients gradually moved away from initial emotional reactions and toward more active and adaptive coping strategies.

2.1. Meaning-Making and Reinterpretation of the Illness

One of the most prominent coping strategies was the search for meaning in the illness experience. Patients reframed the illness as a life test, an opportunity for personal growth, or a temporary phase—processes that reduced psychological distress and reshaped their perceptions of quality of life.

2.2. Role of Spiritual and Religious Beliefs

Many participants referred to religious beliefs and spiritual experiences as critical sources of comfort and hope. Trust in a higher power, prayer, and a sense of spiritual connection enabled them to experience greater inner control and to confront challenging conditions more effectively.

2.3. Activation of Inner Resources

Findings indicated that patients gradually activated inner resources such as patience, hope, positive self-talk, and acceptance of reality. This process contributed to the emergence of psychological resilience and enhanced their capacity to tolerate treatment-related stress.

3. Cognitive and Psychological Adaptation to Limitations and the Reconstruction of Quality of Life

The third and most central overarching theme pertains to cognitive flexibility as a dynamic and developmental process within patients lived experiences. The data showed that cognitive flexibility plays an essential role in reconstructing patients' quality of life.

3.1. Cognitive Flexibility as a Dynamic Process

Participants described cognitive flexibility not as a fixed trait but as a gradual process shaped over the course of treatment and through continual exposure to challenges. This process involved shifting perspectives, accepting the reality of the illness, and recognizing alternative possibilities in life.

3.2. Reconstruction of Personal Identity

A key outcome of cognitive flexibility was the reconstruction of personal identity. Patients reported the necessity of redefining themselves, their roles, and life goals after transplantation. This identity reconstruction helped them sustain a sense of meaning and self-worth.

3.3. Emotion Regulation and Management of Negative Thoughts

Cognitive flexibility enabled patients to identify and correct catastrophic thoughts. Through cognitive restructuring, they managed negative emotions—such as fear, anger, and hopelessness—more effectively, leading to greater emotional stability and a sense of calm.

3.4. Impact of Cognitive Flexibility on Quality of Life

The findings demonstrated that patients who experienced greater cognitive flexibility reported higher levels of quality of life. These individuals described enhanced feelings of control, hope, and life satisfaction and showed greater adaptability to the physical and psychological limitations imposed by the illness.

Overall, the qualitative findings reveal that the lived experience of patients with hematologic malignancies is multidimensional, dynamic, and fundamentally shaped by cognitive and psychological processes. Cognitive flexibility emerged as the central mechanism influencing how patients confront illness, derive meaning from suffering, and reconstruct their quality of life. These findings suggest that enhancing cognitive flexibility may serve as a key target in psychological and supportive interventions for patients with hematologic malignancies.

Discussion

The aim of the present study was to explore the lived experience of patients with hematologic malignancies, with a particular focus on the role of cognitive flexibility in improving quality of life. The qualitative findings revealed that these experiences are multidimensional, dynamic, and complex, shaped through the interaction of cognitive, emotional, and social factors. Analysis of patients' narratives demonstrated that cognitive flexibility plays a central role in how individuals confront the illness, adapt to treatment conditions, and reconstruct their quality of life.

Psychological Experience of Diagnosis and Treatment: From Collapse to Meaning Reconstruction

The findings showed that the diagnosis of a hematologic malignancy is often accompanied by psychological shock, fear of death, intense anxiety, and a profound sense of loss of control. This aligns with previous studies identifying the diagnosis of hematologic cancers as one of the most stressful events in a patient's life (El-Jawahri et al., 2021). In the early stages, patients described the future as uncertain and threatening, and their quality of life declined markedly.

What distinguishes the present findings is the emphasis on the gradual transition from initial emotional reactions toward a cognitive redefinition of the illness experience. Over time, patients attempted to reduce psychological pressure through meaning-making, cognitive reinterpretation of the illness, and acceptance of reality. This process aligns with meaning-centered perspectives in health psychology, which highlight meaning-making as a key component of adaptation to life-threatening illness (Park, 2010).

Treatment-Related Isolation and Quality of Life: The Role of Subjective Interpretation

One of the prominent themes was the experience of loneliness and social isolation caused by prolonged hospitalization and protective isolation in the transplantation unit. Patients felt detached from normal life, social relationships, and previous roles. This finding is consistent with prior qualitative research indicating that treatment-related isolation is a major contributor to reduced quality of life among transplant patients (Wang et al., 2022).

A noteworthy insight from this study is that the impact of isolation depended less on the objective conditions and more on patients' subjective interpretation of those conditions. Patients with higher cognitive flexibility demonstrated greater capacity to adapt to limitations and were less likely to experience a decline in quality of life. This underscores the decisive role of cognitive processes in shaping the subjective experience of quality of life.

Cognitive Flexibility: The Core of Patients' Lived Experience

The most significant finding was the identification of cognitive flexibility as the central mechanism in the lived experience of patients. Participants did not describe cognitive flexibility as a fixed attribute but as a dynamic and developable process shaped through ongoing encounters with illness and treatment. This is consistent with contemporary perspectives that conceptualize cognitive flexibility as an acquirable and teachable skill (Dennis & Vander Wal, 2010).

Patients with higher cognitive flexibility were able to:

Identify and adjust catastrophic thoughts

Adopt alternative perspectives on their illness

Regulate negative emotions more effectively

Reconstruct personal goals and identity

These processes ultimately contributed to improved quality of life. This finding aligns with previous studies reporting that cognitive flexibility reduces stress, enhances resilience, and promotes psychological well-being (Bacıoğlu & Kocabıyık, 2024).

Identity Reconstruction and Post-Illness Quality of Life

The findings indicated that after experiencing illness and transplantation, patients were compelled to redefine their personal identity and social roles. Although this reconstruction can be challenging, when combined with cognitive flexibility, it may become an opportunity for psychological growth. Patients were able to set new goals and revise their criteria for quality of life.

This finding corresponds with the concept of post-traumatic growth, which suggests that some individuals achieve deeper understanding of life, relationships, and themselves after confronting severe adversity (Tedeschi & Calhoun, 2004). In this study, cognitive flexibility emerged as the key mechanism facilitating this growth and contributing to the reconstruction of quality of life.

Practical Implications

The findings suggest that focusing solely on biomedical treatment is insufficient to enhance the quality of life of patients with hematologic malignancies. Psychological interventions aimed at strengthening cognitive flexibility may play a critical role in improving quality of life. Training in cognitive restructuring, emotion regulation, and meaning-making skills could help patients adapt more effectively to the challenges of their illness.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by the ethics committee of Islamic Azad University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection, and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

References

Bacıoğlu, S. D., & Kocabıyık, O. O. (2024). The perceived stress and psychological resilience: The mediating role of cognitive flexibility. *Annals of Psychology, 27*(3), 1–15.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Dennis, J. P., & Vander Wal, J. S. (2010). The Cognitive Flexibility Inventory. *Cognitive Therapy and Research, 34*, 241–253.

El-Jawahri, A., Li, S., & Lee, S. J. (2021). Psychological and quality-of-life outcomes in hematopoietic stem cell transplantation. *Blood Reviews, 49*, 100833.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? *Field Methods, 18*(1), 59–82.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage Publications.

Majhail, N. S., Rizzo, J. D., & Lee, S. J. (2019). Long-term complications after hematopoietic cell transplantation. *Biology of Blood and Marrow Transplantation, 25*(4), e89–e98.

Martin, M. M., & Rubin, R. B. (1995). A new measure of cognitive flexibility. *Psychological Reports, 76*(2), 623–626.

Park, C. L. (2010). Making sense of the meaning literature. *Psychological Bulletin, 136*(2), 257–301.

Psyllidis, P., Martinez, L., & Wang, L. (2020). Quality of life and symptom burden following hematopoietic stem cell transplantation. *Bone Marrow Transplantation, 55*(8), 1678–1687.

Rajabi, M., & Jamalian, R. (2012). *Validity and reliability of the Persian version of the Health-Promoting Lifestyle Questionnaire (HPLP-II) in an Iranian population.* Qazvin University of Medical Sciences Journal, 16(3), 51–60.

Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method and research*. Sage Publications.

Soltani, E., Shareh, H., Bahrinian, S., & Farmani, A. (2013). *The mediating role of cognitive flexibility in the relationship between coping styles, resilience, and depression.* Pejouhandeh, 18(2), 88–96.

Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth. *Psychological Inquiry, 15*(1), 1–18.

Wang, X., Zhou, L., & Liang, Y. (2022). Quality of life and psychosocial adaptation after hematopoietic stem cell transplantation: A systematic review. *Psycho-Oncology, 31*(8), 1283–1296.

Zhou, L., Hu, Y., & Zhang, J. (2022). *Cognitive rigidity, coping strategies, and psychological distress in cancer patients.* Journal of Health Psychology, 27(6), 1342–1351.