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Lived Experiences of Stem Cell Therapy for Degenerative Diseases

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ABSTRACT

Stem cell research and therapies have emerged as a central domain in regenerative medicine, offering new possibilities for treating degenerative diseases that profoundly affect patients' quality of life. While existing knowledge has largely focused on biological mechanisms, clinical efficacy, and safety, less attention has been given to how patients subjectively experience and interpret these therapies within their everyday lives. What remains insufficiently understood is how patients make meaning of hope, uncertainty, identity, and decision-making while undergoing stem cell therapy, prompting the question of how this therapy is lived and understood beyond clinical outcomes. Here, an interpretative phenomenological approach is used to explore and elucidate the essence of patients' lived experiences of stem cell therapy for degenerative diseases. This qualitative study involved 12 patients diagnosed with degenerative diseases who had undergone stem cell therapy at a tertiary referral hospital. Data were collected through in-depth, semi-structured interviews lasting 60–90 minutes, conducted between March and July 2025, and were audio-recorded and transcribed verbatim. Data were generated through in-depth, semi-structured interviews with patients and analyzed using Interpretative Phenomenological Analysis to capture experiential meanings. The findings reveal that stem cell therapy is experienced as a complex process marked by the coexistence of hope and uncertainty, negotiated trust in science and clinicians, shifts in bodily perception and identity, and ethically reflective decision-making. These themes demonstrate how patients actively construct meaning as they engage with an experimental therapeutic intervention. The study advances understanding of stem cell therapy by foregrounding patient experience and highlights important implications for patient-centered care, ethical clinical practice, and future qualitative research in regenerative medicine.

INTRODUCTION

Advances in stem cell research and therapies have positioned regenerative medicine as one of the most promising frontiers in contemporary biomedical science

. Stem cell–based interventions are increasingly explored for the treatment of degenerative diseases, conditions often characterized by progressive functional decline, limited therapeutic options, and profound impacts on patients' quality of life (Kamaldinov et al., 2020). Within clinical and translational research, stem cell therapy is frequently framed as a potential paradigm shift, offering not only biological repair but also renewed possibilities for managing chronic and previously irreversible conditions.

Current scientific understanding of stem cell therapies is largely grounded in biological efficacy, safety profiles, and clinical outcomes, as reflected in the growing body of experimental and clinical trial literature (S. Li et al., 2021). These studies have significantly advanced knowledge regarding mechanisms of action, therapeutic potential, and regulatory considerations (Mukhlis et al. 2023). However, such biomedical emphasis often abstracts the therapy from the lived realities of

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those who undergo it, positioning patients primarily as recipients of treatment rather than as individuals experiencing a complex and emotionally charged therapeutic journey.

From a broader social and human perspective, undergoing stem cell therapy is not merely a clinical event but a deeply personal experience embedded within patients' social, cultural, and existential contexts (Huang et al., 2020). For individuals living with degenerative diseases, the decision to pursue stem cell therapy is frequently intertwined with long-standing experiences of physical limitation, uncertainty about the future, and evolving relationships with medical institutions. The promise associated with regenerative medicine can evoke powerful feelings of hope, while its experimental nature simultaneously introduces uncertainty, ethical reflection, and emotional vulnerability (Wu et al., 2024). These dimensions situate stem cell therapy within a broader landscape of meaning-making, where scientific innovation intersects with human expectations, fears, and aspirations.

Despite the growing societal visibility of stem cell therapies, particularly through media narratives and public discourse, the subjective experiences of patients remain underrepresented in scholarly discussions (Olufsen et al., 2022). Understanding how patients perceive, interpret, and emotionally navigate stem cell therapy is crucial for appreciating its full impact beyond measurable clinical indicators (Mukhlis & Saidah, 2025). Such understanding is especially relevant in contemporary healthcare contexts that increasingly emphasize patient-centered care, shared decision-making, and ethical responsibility in innovative medical practices.

Within this context, there is a clear need for research approaches that move beyond technical and outcome-oriented perspectives to explore the meanings patients attribute to their experiences (Lai, 2021). Phenomenology offers a rigorous framework for capturing these lived experiences by foregrounding patients' voices and attending to how meaning is constructed through personal, social, and clinical interactions (Berdowski et al., 2022). By focusing on experience as it is lived and understood, phenomenological inquiry provides a critical complement to biomedical research, enriching understanding of stem cell therapy as both a scientific and a human phenomenon.

Research on patients' lived experiences in advanced and experimental medical therapies has increasingly been recognized as an important area of inquiry within health sciences and medical humanities (Karimi et al., 2021). As innovative treatments such as stem cell therapy continue to develop, understanding how patients experience these interventions has become essential for capturing dimensions of care that extend beyond clinical efficacy (Mukhlis, 2025). Prior qualitative studies in related areas, including novel therapies and regenerative medicine, have demonstrated that patients' experiences are shaped not only by physical outcomes but also by emotional, ethical, and existential considerations, such as hope, uncertainty, trust, and identity reconstruction.

Despite this growing recognition, exploring the deep meanings embedded in patients' experiences remains methodologically challenging. Much of the existing literature relies on quantitative designs, clinical trials, or outcome-based evaluations that prioritize measurable indicators such as symptom improvement, functional recovery, or safety profiles (Cheng et al., 2024). While these approaches are indispensable for establishing scientific validity, they are inherently limited in their ability to capture subjective experiences, personal interpretations, and the nuanced processes through which patients make sense of undergoing an experimental therapy (Abdel-Sater, 2025). Even when qualitative components are included, they are often positioned as supplementary, resulting in surface-level descriptions rather than in-depth engagement with lived meaning.

These methodological constraints have contributed to a fragmented understanding of stem cell therapy as a human experience (Q.-Y. Li et al., 2021). Approaches that emphasize standardization, numerical representation, or predefined variables tend to overlook the contextual and interpretative nature of patients' narratives (Mukhlis & Abdullah, 2025). Consequently, the essence of the phenomenon how patients live through stem cell therapy, negotiate hope and uncertainty, and integrate the experience into their sense of self remains insufficiently understood. This limitation suggests that many prior research strategies have been less effective in revealing the holistic and experiential dimensions of stem cell therapy, particularly from the patients' own perspectives.

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Within this context, a phenomenological focus becomes especially relevant. By centering on lived experience and meaning-making, phenomenology offers a methodological pathway capable of addressing gaps left by dominant biomedical and quantitative paradigms (Guo et al., 2025). Narrowing the inquiry to the phenomenology of patients undergoing stem cell therapy allows for a deeper examination of how scientific innovation is encountered, interpreted, and embodied in everyday life, thereby advancing understanding of this complex therapeutic phenomenon in a more comprehensive and human-centered manner (Barbon et al., 2021).

In the context of stem cell therapy for degenerative diseases, prevailing solutions to understanding patient outcomes have largely relied on established practical and clinical approaches, such as randomized controlled trials, observational studies, and standardized patient-reported outcome measures (Kehrer et al., 2025). These approaches have contributed substantially to evaluating therapeutic efficacy, safety, and functional improvement, and they remain central to advancing evidence-based regenerative medicine (Mukhlis et al. 2025). However, such solutions predominantly frame patient experience in terms of predefined variables and measurable indicators, often reducing complex human experiences to simplified clinical metrics.

This dominant reliance on practical and outcome-oriented approaches presents significant limitations when the focus shifts to understanding how patients experience and make sense of stem cell therapy (Perez et al., 2024). Quantitative designs and standardized instruments are limited in their capacity to capture the emotional ambiguity, existential reflection, and meaning-making processes that accompany participation in experimental therapies (Bhartiya et al., 2023). Even qualitative studies embedded within mixed-method designs tend to prioritize breadth over depth, offering descriptive insights without fully engaging with the lived meanings that shape patients' perceptions of hope, uncertainty, trust, and identity. As a result, current knowledge provides only a partial and fragmented understanding of stem cell therapy as a human experience.

What remains insufficiently understood is the essence of patients' lived experiences as they navigate stem cell therapy within the broader contexts of chronic illness, medical uncertainty, and evolving scientific innovation (Al-Massri et al., 2020). There is limited insight into how patients interpret the promise of regenerative medicine, how they reconcile scientific optimism with uncertain outcomes, and how these experiences influence their sense of self and future orientation (Mukhlis, Janwari, et al., 2023). Addressing these gaps requires moving beyond existing practical solutions toward an approach capable of engaging deeply with subjective meaning.

An alternative and necessary solution lies in the adoption of phenomenological inquiry, which is uniquely suited to exploring experience as it is lived and understood by individuals (Williams et al., 2023). By foregrounding patients' perspectives and attending to the interpretative dimensions of their narratives, phenomenology enables a more holistic and nuanced understanding of stem cell therapy that complements biomedical knowledge (Zhao et al., 2021). Such an approach directly addresses the limitations of prior methods and responds to the need for deeper insight into the experiential dimensions of regenerative medicine.

Previous research on innovative and experimental medical therapies has highlighted the importance of understanding patients' experiences alongside clinical outcomes. Studies in regenerative medicine and advanced therapies have explored issues such as hope, uncertainty, ethical concern, and trust, often emphasizing the social and emotional dimensions of treatment participation. Theoretical perspectives from health psychology and medical sociology suggest that patients actively construct meaning when engaging with emerging medical technologies. Methodologically, earlier studies have primarily relied on quantitative evaluations or qualitative approaches that offer descriptive insights without deep interpretative engagement. Consequently, existing literature provides valuable but incomplete accounts of how patients live through and interpret stem cell therapy.

This study addresses these limitations by adopting an interpretative phenomenological approach to explore patients' lived experiences of stem cell therapy for degenerative diseases. Phenomenology is particularly suited to this inquiry because it focuses on experience as it is lived and understood, rather than as it is measured. By using Interpretative Phenomenological Analysis, the

study responds directly to the knowledge gap identified earlier by examining how patients make meaning of hope, uncertainty, identity, and decision-making within an experimental therapeutic context. This approach enables a holistic exploration of the phenomenon that integrates emotional, ethical, and existential dimensions. In doing so, the study offers a deeper understanding of stem cell therapy as both a scientific intervention and a lived human experience.

This article is structured to guide the reader systematically through the research process and findings. The introduction situates the study within the broader and specific contexts of stem cell therapy and phenomenological inquiry. The methods section describes the phenomenological design, participant selection, data collection procedures, and analytical approach used to explore lived experiences. The results section presents key themes derived from the analysis, supported by participants' narratives. The discussion and conclusion sections then interpret the findings in relation to existing literature and highlight their implications for research and practice.

RESEARCH METHODS

Study Design

This study employed a qualitative research design grounded in phenomenology, with the aim of exploring the lived experiences of patients undergoing stem cell therapy for degenerative diseases (Scopetti et al., 2020). Phenomenology was selected as it enables an in-depth examination of subjective experiences and the meanings individuals attribute to significant life events, particularly within complex and uncertain medical contexts. This approach is especially relevant for understanding how patients experience, interpret, and make sense of emerging therapeutic interventions beyond measurable clinical outcomes.

An interpretative phenomenological approach, informed by Heideggerian hermeneutics, guided the study. This approach emphasizes the interpretative nature of human experience and acknowledges that meaning is co-constructed through individuals' engagement with their social, clinical, and existential contexts. Interpretative Phenomenological Analysis (IPA) was applied to facilitate a nuanced exploration of how patients understand hope, uncertainty, identity, and decision-making throughout the stem cell therapy process.

Participants

Participants consisted of patients who had undergone or were currently undergoing stem cell therapy for degenerative diseases. A purposive sampling strategy was used to ensure that participants had direct and meaningful experience with the phenomenon under investigation. Inclusion criteria comprised adults aged 18 years and above who had received stem cell therapy within the past 6 to 24 months and were able to articulate their experiences in an interview setting. Participants with cognitive impairments that could hinder reflective communication were excluded.

A total of 10–15 participants were included, consistent with methodological recommendations for IPA studies. The sample included both male and female participants with varied types of degenerative conditions, allowing for rich, contextualized insights while maintaining the idiographic focus central to phenomenological inquiry. Demographic characteristics such as age range, gender, and treatment context were considered to provide contextual depth to the findings.

Data Collection

Data were collected through in-depth, semi-structured interviews, designed to elicit rich narratives of participants' experiences with stem cell therapy (Shahin et al., 2023). An interview guide was used to ensure consistency across interviews while allowing flexibility for participants to elaborate on issues they perceived as significant. Interview questions focused on participants' experiences of undergoing therapy, perceptions of hope and uncertainty, bodily changes, trust in medical science, and decision-making processes.

Interviews were conducted face-to-face or via secure online platforms, depending on participant preference and accessibility. Each interview lasted approximately 60–90 minutes and took

place in a quiet and comfortable setting to facilitate open and reflective dialogue. All interviews were audio-recorded with participants' consent and transcribed verbatim to ensure accuracy of the data.

Data Analysis

Data analysis followed the systematic procedures of Interpretative Phenomenological Analysis (IPA). Transcribed interviews were read and re-read to achieve immersion in the data. Initial noting was conducted to identify significant statements and experiential claims, followed by the development of emergent themes within each individual case. These themes were then examined across cases to identify patterns of convergence and divergence while preserving the uniqueness of each participant's experience.

The analysis process emphasized a double hermeneutic, whereby participants' interpretations of their experiences were further interpreted to uncover deeper meanings embedded within their narratives. Qualitative data analysis software (e.g., NVivo) was used to support data organization and coding; however, interpretative engagement with the data remained central to the analytical process. This systematic approach enabled the identification of essential themes that captured the core of participants' lived experiences.

RESULTS

Living Between Hope and Uncertainty

A central theme emerging from the data was the experience of living simultaneously with profound hope and persistent uncertainty. Participants often described stem cell therapy as a source of renewed hope, particularly after experiencing limited success with conventional treatments. This hope was not merely clinical but deeply emotional, representing a possibility of reclaiming a meaningful life.

One participant expressed:

"When I was offered stem cell therapy, it felt like a light appeared after a very long darkness. I knew it was not guaranteed, but I needed something to believe in."

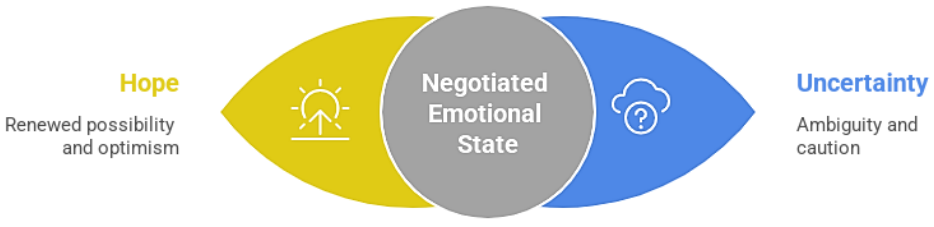
However, this hope coexisted with an enduring sense of uncertainty. Participants were acutely aware that stem cell therapy is still evolving and does not promise definitive outcomes. The ambiguity surrounding treatment effectiveness created an emotional tension, where optimism was carefully balanced with caution.

As another participant stated:

"I tried not to expect too much. Every day I was hopeful, but at the same time, I was afraid of being disappointed again."

This theme highlights how hope in stem cell therapy is not absolute optimism but a negotiated emotional state shaped by previous medical experiences and ongoing uncertainty.

The Emotional Landscape of Stem Cell Therapy



Negotiating Trust in Science and Clinicians

Trust emerged as a crucial element in participants' experiences, particularly trust in medical science and healthcare professionals. Many participants described placing significant trust in

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clinicians, researchers, and the scientific promise of stem cell therapies, often due to the complexity of the treatment and their limited ability to fully understand the technical aspects.

One participant noted:

"I don't fully understand how stem cells work, but I trust the doctors. I believe they wouldn't offer this if there was no scientific basis."

At the same time, trust was not unconditional. Some participants actively sought information, questioned clinicians, and reflected critically on media portrayals of stem cell therapies. This process reflects a dynamic negotiation of trust rather than passive acceptance.

Another participant explained:

"I trusted the science, but I also asked many questions. I needed to be sure that this was not just hype, but something grounded in real research."

This theme illustrates how trust functioned as both an emotional anchor and a cognitive process, enabling participants to engage with an experimental therapy while maintaining a sense of agency.

Experiencing Bodily Change and Shifting Identity

Participants frequently described changes in how they perceived their bodies and identities following stem cell therapy. Even when physical improvements were subtle or gradual, the treatment altered how participants related to their bodies, often restoring a sense of possibility that had been diminished by chronic illness.

One participant reflected:

"My body had felt like it was failing me for years. After the therapy, even small changes made me feel that my body was trying again."

For some, these bodily experiences were closely tied to shifts in identity. Participants described moving from an identity defined by illness and limitation toward one that included hope, resilience, and potential recovery.

As expressed by another participant:

"I stopped seeing myself only as a patient. I started to feel like a person who still has a future."

This theme underscores how stem cell therapy was experienced not only as a medical intervention but also as a transformative process influencing self-perception and identity.

Ethical Reflection and Awareness of Risk

Ethical reflection emerged as a meaningful aspect of participants' experiences. Many participants demonstrated an awareness of the experimental nature of stem cell therapy and reflected on the risks involved, both for themselves and for the broader field of medical research.

One participant shared:

"I knew I was taking a risk, but I also felt that someone has to take the first steps so that others can benefit in the future."

This awareness did not necessarily deter participation but rather framed the decision as a morally reflective act. Participants often positioned themselves as contributors to scientific progress, which added meaning to their participation beyond personal benefit.

Another participant stated:

"Even if it doesn't fully work for me, maybe it will help doctors understand more. That thought gave me peace."

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This theme reveals how ethical considerations and perceptions of risk were integrated into participants' meaning-making processes.

Decision-Making as an Existential Process

Decision-making regarding stem cell therapy was described as an existential process rather than a purely rational or medical choice. Participants recounted long periods of reflection, discussions with family members, and emotional struggle before deciding to undergo the therapy.

One participant explained:

"It was not an easy decision. I thought about my family, my future, and what it would mean if it failed. In the end, I chose hope over fear."

This process highlights how decisions were embedded in participants' broader life contexts, values, and personal histories. The choice to undergo stem cell therapy was experienced as an assertion of agency in the face of uncertainty.

Overall, the findings reveal that undergoing stem cell therapy is experienced as a complex, multifaceted phenomenon characterized by the coexistence of hope and uncertainty, negotiated trust in science and clinicians, evolving bodily and identity perceptions, ethical reflection, and deeply personal decision-making processes. These themes collectively capture the essence of patients' lived experiences and provide a nuanced understanding of stem cell therapy beyond clinical outcomes alone.

DISCUSSION

Summary of Key Findings

This study reveals that undergoing stem cell therapy is experienced by patients as a complex and deeply meaningful process characterized by the coexistence of hope and uncertainty, evolving self-perceptions, negotiated trust in medical science, and ethically reflective decision-making (Kim et al., 2021). These findings directly address the central research question by illuminating how patients make sense of stem cell therapy not merely as a clinical intervention, but as a lived experience embedded within broader personal and social contexts.

Contribution of the Findings to the Research Question

The findings of this study provide a nuanced response to the guiding research question by demonstrating that patients' experiences of stem cell therapy extend well beyond biomedical considerations of efficacy or safety (Izadyari Aghmiuni et al., 2023). Participants' narratives reveal that hope functions as an adaptive and dynamic orientation toward the future, shaped by prior illness experiences and tempered by an awareness of uncertainty (Mukhlis, 2025a). Rather than representing naïve optimism, hope emerges as a carefully negotiated stance that allows patients to remain engaged with life possibilities while acknowledging the experimental nature of the therapy. This insight contributes to a deeper understanding of how patients psychologically and existentially navigate innovative medical treatments.

Furthermore, the study shows that meaning-making during stem cell therapy involves an ongoing negotiation of trust in both clinicians and scientific knowledge (Narzisi et al., 2023). Trust is not passively granted but actively constructed through interactions, information-seeking, and personal reflection. This process supports patients' sense of agency and enables them to engage with uncertainty in a manner that aligns with their values and expectations (Yoo et al., 2021). By foregrounding these experiential dimensions, the study offers a perspective that complements existing clinical frameworks and underscores the importance of recognizing patients as active meaning-makers in regenerative medicine.

The findings also highlight how stem cell therapy can influence patients' embodied experiences and identities. Changes in bodily perception, even when subtle, are experienced as signals of renewed possibility, reshaping how individuals understand themselves in relation to illness and recovery (Mukhlis, Arifin, Ridwan, Zulbaidah, et al., 2025). This shift in identity from being

defined primarily by degeneration to envisioning a future that includes hope and agency addresses a dimension of patient experience that is rarely captured in conventional outcome-focused research (Poliwoda et al., 2022). Collectively, these contributions demonstrate that phenomenological inquiry provides critical insights into how patients live through and interpret stem cell therapy, thereby answering the research question at a depth unattainable through existing practical approaches.

Relationship to Existing Literature and Theory

The findings of this study are consistent with and extend prior qualitative research on patient experiences in experimental and innovative medical therapies (Liu et al., 2024). Previous studies have identified hope and uncertainty as central elements in patients' engagement with novel treatments. The present findings deepen this understanding by showing how these elements coexist and are actively managed through reflective and interpretative processes, rather than being experienced as opposing or static states (Mukhlis, Maryam, et al., 2023). This aligns with phenomenological perspectives that view experience as dynamic and contextually situated.

In relation to theories of trust in healthcare, the findings resonate with literature suggesting that trust is relational and constructed through ongoing interaction rather than assumed as a given (Haghighat et al., 2021). The study adds to this body of work by illustrating how trust in stem cell therapy is intertwined with patients' awareness of scientific uncertainty and ethical considerations. Rather than undermining trust, this awareness appears to foster a more informed and reflective engagement with medical innovation, supporting theoretical accounts that emphasize reflexivity in patient–clinician relationships.

From a phenomenological standpoint, the observed shifts in bodily awareness and identity echo Heideggerian notions of being-in-the-world, where illness and treatment reconfigure how individuals experience their bodies and futures (Mukhlis et al., 2024). Similar identity-related transformations have been noted in studies of chronic illness and advanced therapies, yet remain underexplored in the context of regenerative medicine (Hamam et al., 2023). By situating these experiences within stem cell therapy, this study complements existing theory and highlights the value of phenomenology in revealing how medical interventions are lived as existential events rather than isolated clinical procedures.

Implications of the Findings

The findings of this study carry important scientific and practical implications for the field of stem cell research and therapies, particularly within patient-centered and ethically grounded healthcare practices (He et al., 2021). By illuminating how patients experience hope, uncertainty, trust, and identity transformation, the study underscores the need to recognize stem cell therapy not only as a biomedical intervention but also as a socially and existentially meaningful experience. These insights suggest that clinical communication and care practices should attend more carefully to patients' emotional and interpretative processes, especially when treatments involve scientific uncertainty and experimental dimensions.

From a professional and clinical perspective, the findings highlight the value of incorporating patients' lived experiences into therapeutic decision-making and follow-up care. Understanding how patients negotiate trust and make sense of risk can support more transparent, empathetic, and responsive clinician–patient relationships. In broader social and cultural contexts, the study contributes to ongoing discussions about the societal meaning of regenerative medicine, emphasizing how emerging medical technologies shape expectations, responsibility, and moral reflection. Although grounded in a specific group of patients, these experiential themes are relevant to wider populations engaging with innovative therapies, suggesting broader applicability across contexts where medical advancement intersects with human vulnerability.

Limitations of the Study

Several limitations should be acknowledged when interpreting the findings of this study. First, the use of a phenomenological approach with a purposive and relatively small sample limits the extent to which findings can be generalized to all patients undergoing stem cell therapy. The focus on

depth rather than breadth, while appropriate for phenomenological inquiry, means that the findings reflect particular experiences situated within specific clinical and social contexts.

Second, participants' accounts were shaped by their individual circumstances, stages of treatment, and retrospective reflections, which may have influenced how experiences were articulated and remembered. Additionally, the study did not include perspectives from clinicians or caregivers, which could have provided complementary insights into the therapeutic context. These limitations do not diminish the value of the findings but rather define their scope and suggest areas where further exploration is warranted.

Prospective Directions for Future Research

The findings of this study open several avenues for future research in stem cell therapies and regenerative medicine. Further phenomenological studies could explore variations in patient experiences across different cultural, regulatory, or healthcare settings, thereby enriching understanding of how social context shapes meaning-making processes. Longitudinal qualitative research may also offer insight into how patients' interpretations of stem cell therapy evolve over time, particularly as treatment outcomes become clearer.

In addition, future research could integrate phenomenological findings with other qualitative or mixed approaches to inform the development of patient-centered guidelines and ethical frameworks for innovative therapies. By building on the experiential insights identified in this study, subsequent research can contribute to a more holistic and human-oriented understanding of regenerative medicine, supporting both scientific advancement and compassionate clinical practice.

CONCLUSION

This study examined the lived experiences of patients undergoing stem cell therapy for degenerative diseases, focusing on how individuals make meaning of hope, uncertainty, identity, and decision-making within an experimental therapeutic context. The findings demonstrate that stem cell therapy is experienced not only as a medical intervention but also as a deeply personal and existential process shaped by emotional negotiation, trust in science and clinicians, and ethical reflection. By foregrounding patients' voices, this research addresses a critical gap in existing literature that has largely emphasized biological outcomes while overlooking experiential dimensions. The phenomenological approach adopted in this study provides a richer and more holistic understanding of stem cell therapy as a human experience, thereby complementing dominant biomedical perspectives. These insights have concrete implications for patient-centered care. Clinicians and regenerative medicine teams should incorporate structured shared decision-making models that explicitly address patients' hopes, fears, and expectations, rather than focusing solely on clinical probabilities. Pre-therapy counseling sessions could be designed to discuss uncertainty transparently, including potential outcomes, risks, and experimental limitations, thereby strengthening informed consent processes. In addition, integrating psychosocial support services—such as counseling or patient peer-support groups—may help patients navigate identity shifts and emotional ambivalence throughout the therapeutic journey. Training programs for healthcare professionals in regenerative medicine should also emphasize empathetic communication and ethical sensitivity when managing experimental or emerging treatments. Future research may extend this work by exploring diverse cultural settings, longitudinal patient experiences, or integrating phenomenological findings into interdisciplinary frameworks for evaluating innovative medical therapies. Long-term qualitative follow-up studies are particularly recommended to examine how patients reinterpret their experiences over time and how expectations align with perceived outcomes. Furthermore, mixed-method or interdisciplinary designs that combine experiential data with clinical indicators could contribute to more comprehensive evaluation models for emerging stem cell interventions.

CONFLICT OF INTEREST

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The authors declare that there is no conflict of interest regarding the publication of this article.

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