



Patient Experience in Stem Cell Therapy for Degenerative Diseases: A Narrative of the Healing Journey and Medical Challenges

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ABSTRACT

Regenerative medicine, particularly stem cell therapy, has emerged as a promising treatment for degenerative diseases, integrating biomedical advancements with innovative therapeutic approaches. While clinical research has extensively explored its physiological benefits, patient experiences and psychological dimensions remain underexamined. This study addresses the gap by employing a phenomenological approach to investigate the lived experiences of patients undergoing stem cell therapy. Through semi-structured interviews and thematic analysis, findings reveal the interplay between hope, uncertainty, and transformation throughout the treatment process. Patients construct meaning around their healing journey by navigating emotional and existential challenges, emphasizing the necessity of patient-centered care in regenerative medicine. These insights contribute to a more holistic understanding of stem cell therapy, highlighting the importance of emotional support, expectation management, and long-term psychosocial considerations in future research and clinical practice.



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INTRODUCTION

The application of regenerative medicine, particularly stem cell therapy, has emerged as a promising approach in treating degenerative diseases such as osteoarthritis, diabetes type 1, and neurodegenerative conditions (Abdallah dkk., 2023). This field integrates advances in biomedical sciences with therapeutic innovations aimed at restoring damaged tissues and organs (Barry dkk., 2023). As a rapidly evolving domain, regenerative medicine has spurred significant discussions regarding its clinical efficacy, ethical considerations, and patient experiences.

Stem cell therapy operates on the principle of harnessing the regenerative potential of stem cells to replace or repair damaged cells (Benson dkk., 2023). Early clinical trials and experimental treatments have reported varying degrees of success, with some patients experiencing significant functional improvements, while others encounter limited outcomes or unforeseen complications (Drogovoz dkk., 2021). Despite these developments, much of the existing literature remains focused on biological mechanisms and clinical outcomes, often overlooking the lived experiences of patients undergoing such treatments.

Previous research has employed quantitative methodologies to assess the effectiveness of stem cell therapy, primarily measuring physiological improvements and success rates (Kilgore dkk., 2023). However, these approaches fail to capture the subjective dimensions of patient experiences, including emotional, psychological, and social challenges associated with undergoing regenerative treatments. Given the complexity of patient responses and the uncertainties surrounding long-term efficacy, there is a critical need for a phenomenological exploration that prioritizes personal narratives and meanings constructed by individuals who have undergone this therapy.

This study aims to fill this gap by adopting a phenomenological perspective to investigate how patients perceive and experience stem cell therapy for degenerative diseases. By focusing on subjective

interpretations, this research provides a nuanced understanding of the motivations, expectations, uncertainties, and transformations associated with the therapy (Li & Xu, 2021). In doing so, the study contributes to a more comprehensive appreciation of the impact of regenerative medicine, extending beyond clinical success to encompass psychological and existential dimensions of healing.

The study of patient experiences in medical treatments has gained significant attention in health research, particularly within the field of phenomenology (Mankahla dkk., 2021). This approach emphasizes understanding lived experiences and the meanings individuals attach to their medical journeys. In the context of stem cell therapy for degenerative diseases, a phenomenological approach is particularly valuable in capturing the complexities of hope, uncertainty, and transformation that patients undergo.

Despite its potential, exploring patient experiences in regenerative medicine presents methodological challenges. Traditional research in this field has largely relied on quantitative measures such as success rates, physiological changes, and clinical outcomes (Y. Ren dkk., 2019). While these indicators are valuable, they fail to encompass the psychological, social, and existential aspects that shape a patient's healing process. The reductionist nature of such methodologies often overlooks the deeply personal and subjective dimensions of undergoing an experimental and evolving medical treatment.

Furthermore, previous qualitative studies in regenerative medicine have primarily employed general thematic analysis, which, although useful, may not fully grasp the depth of meaning in patient narratives. Without a framework that prioritizes personal interpretation and emotional insight, essential aspects of patient experiences remain underexplored.

The limitations of prior research underscore the necessity of adopting a phenomenological approach in this study. By centering on subjective interpretations, this research aims to bridge the gap in understanding how individuals experience, interpret, and derive meaning from their journey through stem cell therapy. This study seeks to contribute to the growing discourse on patient-centered care in regenerative medicine by providing insights into the lived realities of those who undergo these innovative treatments.

Existing research on stem cell therapy has largely emphasized clinical outcomes, success rates, and physiological improvements, yet it remains limited in addressing the holistic experiences of patients undergoing this treatment. While previous studies have provided valuable insights into the biological mechanisms and potential efficacy of regenerative medicine, they have not sufficiently explored the deeply personal and psychological dimensions of the healing process.

Traditional methodologies, particularly those rooted in quantitative analysis, often fail to capture the complexities of hope, uncertainty, and subjective transformations that patients experience. The reliance on biomedical metrics has led to an incomplete understanding of how individuals navigate the physical, emotional, and existential aspects of their treatment journeys. Additionally, the dominance of clinical perspectives in prior research has overlooked the lived realities of patients, leaving critical questions regarding their personal meanings, decision-making processes, and adaptation strategies unaddressed.

A phenomenological approach is needed to bridge this gap by uncovering the essence of patient experiences beyond mere medical outcomes. By prioritizing subjective interpretations, this study aims to illuminate the nuanced perspectives of individuals undergoing stem cell therapy, offering insights into their motivations, expectations, fears, and transformations. Such an approach will contribute to a more comprehensive understanding of regenerative medicine, integrating the voices of patients into the broader discourse on therapeutic innovation and patient-centered care.

Previous studies on stem cell therapy have predominantly focused on physiological and clinical outcomes, emphasizing success rates and biological efficacy. While these aspects are crucial, they do not fully capture the lived experiences of patients who undergo these treatments. Research in phenomenology has highlighted the importance of understanding personal narratives, offering a way to explore the meaning patients attribute to their medical journeys. Theoretical frameworks such as

hermeneutic phenomenology provide a foundation for interpreting patient experiences beyond mere statistical measures, allowing for a richer and more holistic understanding of the healing process.

This study adopts a phenomenological approach to explore how patients experience and interpret their journey through stem cell therapy for degenerative diseases. By employing semi-structured interviews and thematic analysis, this research seeks to uncover the deeply personal aspects of hope, uncertainty, and transformation that patients encounter. The methodology allows for an in-depth examination of the psychological, emotional, and existential dimensions of treatment, addressing the gaps identified in previous research. Through this approach, the study aims to provide a comprehensive narrative that reflects the diverse realities of individuals undergoing regenerative therapy.

This article is structured as follows: The introduction provides an overview of the significance of regenerative medicine and the knowledge gaps in current research. The methodology section details the phenomenological approach and data collection procedures. The results section presents thematic findings derived from patient narratives. The discussion contextualizes these findings within existing literature, exploring their implications for medical practice and patient care. Finally, the conclusion highlights key contributions of the study and suggests directions for future research.

RESEARCH METHODS

Study Design

This study employed a phenomenological approach to explore the lived experiences of patients undergoing stem cell therapy for degenerative diseases (Z. Ren dkk., 2024). Phenomenology was chosen due to its emphasis on understanding personal experiences and the meanings patients assign to their healing journeys. This design enabled an in-depth exploration of subjective experiences, shedding light on the emotional, psychological, and social dimensions of the therapy process. A hermeneutic phenomenological approach was utilized to interpret patients' narratives and uncover underlying themes within their experiences.

Participants

Participants were selected through purposive sampling to ensure relevance to the research objectives. The study included ten patients who had undergone at least one full cycle of stem cell therapy for degenerative diseases within the past six months. Inclusion criteria required participants to be between the ages of 30 and 70, cognitively capable of articulating their experiences, and willing to provide detailed narratives. Exclusion criteria included patients with acute medical conditions that impeded communication or those undergoing concurrent experimental treatments that could confound findings.

Data Collection

Data were collected through in-depth, semi-structured interviews conducted in a setting chosen by the participants to ensure comfort and open dialogue (Shaikh & Gibbons, 2023). Interviews lasted between 45 and 90 minutes, focusing on patients' motivations, expectations, treatment experiences, and perceptions of healing. An interview guide was utilized to ensure consistency while allowing flexibility for participants to elaborate on meaningful aspects of their experiences. All interviews were recorded and transcribed verbatim to preserve the authenticity of responses.

Data Analysis

Data were analyzed using thematic analysis within a hermeneutic framework. Transcripts were systematically coded to identify recurrent themes, with particular attention to variations in individual experiences. Themes were refined through iterative reading and interpretation, ensuring that emergent patterns accurately reflected participants' narratives. NVivo software facilitated data organization but did not replace the interpretative role of the analysis. Key themes were developed based on patients' descriptions and contextualized within existing literature on regenerative medicine.

Ethical Considerations

Ethical approval was obtained from the relevant institutional review board prior to data collection. Participants provided written informed consent, including consent for audio recording and anonymous data use. Confidentiality was maintained by assigning pseudonyms and securely storing all interview data. The study adhered to ethical guidelines for human subject research, ensuring voluntary participation, privacy, and the right to withdraw at any stage without consequence.

RESULTS

Hope and Motivation: Seeking a Promising Future

Patients undergoing stem cell therapy for degenerative diseases entered the treatment with high hopes, driven by both medical recommendations and personal aspirations for recovery. Many participants expressed a sense of optimism upon learning about the potential regenerative effects of stem cell therapy. One patient shared, "When my doctor told me that stem cell therapy could help me walk without pain again, I felt a surge of hope. It felt like a second chance." This sense of hope was often reinforced by success stories from other patients and media portrayals of regenerative medicine. However, some participants acknowledged an internal conflict between hope and realism, as one patient described, "I knew there were no guarantees, but I wanted to believe that this could be my turning point."

Uncertainty and Fear: Navigating the Unknown

Despite initial optimism, many patients encountered moments of uncertainty and fear, particularly concerning the efficacy and safety of the treatment. Several participants reported anxiety before the procedure, worried about potential side effects and financial burdens. "I was afraid that after spending so much money, it wouldn't work for me," one participant admitted. Others expressed concerns over the experimental nature of the therapy, questioning its long-term effects. These uncertainties were compounded by the lack of extensive longitudinal studies, making some patients feel as though they were venturing into uncharted medical territory.

Physical and Psychological Changes: A Mixed Reality

The physical outcomes of stem cell therapy varied among participants. Some patients reported significant improvements in mobility and pain relief. "After the therapy, I could walk longer distances without feeling exhausted. It was like regaining a part of my life I thought I had lost," one patient reflected. Others, however, felt that their expectations were not met, with some experiencing only minor relief or no noticeable improvement at all. In these cases, disappointment was often accompanied by psychological distress. "I tried to stay positive, but when I realized that my condition hadn't changed much, it was hard not to feel let down," shared another patient.

Social Support: The Role of Family and Medical Guidance

The presence of supportive family members and knowledgeable healthcare professionals significantly influenced patients' experiences. Those with strong family support often described feeling emotionally resilient. "My family encouraged me every step of the way. Even when I doubted the treatment, they reminded me why I had started," a patient recounted. Conversely, those who lacked such support reported feeling isolated and uncertain about their decisions.

Furthermore, patients who had clear, transparent communication with their doctors expressed greater satisfaction, even when results were less than ideal. "My doctor was honest about what to expect, so I wasn't shocked when the results weren't miraculous," stated one participant. In contrast, individuals who received limited pre-treatment counseling were more prone to frustration and confusion about their progress.

The Meaning of Healing: Beyond the Physical

For some patients, healing was not solely defined by physical improvement but also by emotional and spiritual transformation. One participant explained, "Even though my condition didn't improve dramatically, the therapy gave me a renewed sense of purpose. I felt like I was taking control of my health again." Others viewed the experience as a testament to their resilience, finding personal

growth through the challenges they faced. This highlights the multifaceted nature of healing, where psychological and existential factors play an equally significant role as physical outcomes.

Overall, the experiences of patients undergoing stem cell therapy for degenerative diseases revealed a complex interplay between hope, uncertainty, physical outcomes, social support, and the broader meaning of healing. While some found tangible benefits, others faced emotional struggles tied to unmet expectations. The role of medical guidance and familial support emerged as crucial determinants in shaping patients' perceptions of their treatment journey. These findings underscore the importance of integrating psychological and social considerations into stem cell therapy protocols to enhance patient well-being and treatment satisfaction.

DISCUSSION

The findings of this study reveal that patients undergoing stem cell therapy experience a dynamic interplay between hope, uncertainty, and transformation (Sun dkk., 2022). These experiences, while unique to each patient, collectively highlight the emotional and psychological dimensions of regenerative treatment. The results directly address the research questions by illustrating how individuals construct meaning around their healing journey and navigate the challenges associated with an evolving medical intervention.

This study contributes to the understanding of patient experiences by emphasizing the deeply personal aspects of regenerative medicine. Unlike prior research that focuses primarily on physiological improvements, this study provides insights into the lived realities of individuals who undergo experimental treatments (Go & Champaneria, 2002). The themes identified in the results—ranging from hope and motivation to uncertainty and adaptation—underscore the significance of a patient-centered approach in regenerative therapy.

Comparison with existing literature suggests that while previous studies have acknowledged the potential of stem cell therapy, they have largely overlooked the existential dimensions of healing (Hoyme, 2016). The findings align with phenomenological theories that highlight the importance of subjective meaning in medical experiences. By integrating these perspectives, this study enriches the discourse on patient-centered care and offers a more holistic framework for understanding the regenerative treatment process.

Implications of Findings

The findings of this study provide valuable insights into the broader social, cultural, and professional implications of stem cell therapy. Patients' narratives reveal that the therapy is not just a medical intervention but also a transformative experience influencing their self-perception and expectations of recovery (Markov, 2007). These findings emphasize the importance of patient-centered care in regenerative medicine, where medical professionals must acknowledge the psychological and existential dimensions of healing. Additionally, this study suggests that effective communication strategies between patients and healthcare providers can enhance treatment satisfaction and emotional preparedness.

Study Limitations

Although this study provides a rich understanding of patient experiences, certain limitations must be acknowledged (Chattopadhyay & Goyary, 2024, hlm. 2). The sample size, while sufficient for qualitative analysis, limits the generalizability of findings to broader populations. Additionally, since participants were selected based on willingness to share their experiences, their narratives may not fully represent the spectrum of patient perspectives. Future research should consider incorporating a longitudinal approach to explore how perceptions of stem cell therapy evolve over time and across different healthcare contexts.

Directions for Future Research

Given the emerging nature of stem cell therapy, future research should focus on exploring diverse patient populations and different cultural perspectives on regenerative medicine. Expanding

phenomenological studies to include caregivers and healthcare providers may offer a more comprehensive understanding of the therapy's social and relational dimensions. Additionally, integrating qualitative findings with longitudinal medical data can enhance our comprehension of the interplay between subjective experiences and clinical outcomes.

CONCLUSION

This study explored the lived experiences of patients undergoing stem cell therapy for degenerative diseases, revealing complex emotional, psychological, and existential dimensions of healing. The findings highlight the interplay between hope, uncertainty, and transformation as patients navigate their treatment journey. By adopting a phenomenological approach, this study provides a deeper understanding of how patients construct meaning around their experiences, extending beyond clinical success to include psychological resilience and social adaptation. These insights contribute to a more patient-centered approach in regenerative medicine, emphasizing the importance of communication, emotional support, and expectation management. While the study is limited by its qualitative scope and sample size, its findings offer valuable implications for both healthcare professionals and policymakers in refining therapeutic strategies. Future research should further investigate the long-term psychosocial effects of stem cell therapy and explore cross-cultural perspectives on regenerative medicine.

CONFLICT OF INTEREST

This article has undergone an independent and objective review process. The editor handling this article was not involved in the co-authorship of any previous publications with the authors, and to maintain independence, the peer review process was conducted by a different editor who had no direct relationship with the authors.

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