




# Psychological Resilience During Illness in Patients Recovered from Cancer

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## ABSTRACT

Cancer survivors face significant psychological challenges post-treatment, which necessitates an understanding of the resilience mechanisms they employ to cope and thrive. This study aims to explore the psychological resilience of cancer survivors, identifying the emotional responses, coping strategies, support systems, and personal growth experienced during and after their recovery. This qualitative study employed semi-structured interviews with 26 cancer survivors who had completed treatment at least six months prior. The sample included a diverse group of participants in terms of age, gender, and cancer type. Data collection aimed at theoretical saturation and analysis was conducted using NVivo software, following a grounded theory approach to identify themes and sub-themes within the narratives. Four main themes were identified: Emotional Responses, Coping Strategies, Support Systems, and Reflections and Growth. Each theme encompassed several categories with specific concepts: Emotional Responses included initial reactions, coping during treatment, and post-treatment emotions; Coping Strategies covered personal strategies, reliance on support systems, and spiritual and philosophical approaches; Support Systems highlighted the role of family and friends, healthcare providers, and community networks; Reflections and Growth focused on changes in self-perception, impact on relationships, and shifts in life philosophy. The study underscores the complexity of the resilience process among cancer survivors, revealing a broad spectrum of emotional responses, adaptive coping mechanisms, and the crucial role of support systems. The findings emphasize the need for holistic approaches in oncological care that address not only the physical but also the psychological and social aspects of cancer survivorship.

**Keywords:** Cancer survivorship, psychological resilience, coping strategies, support systems, qualitative research, emotional responses, post-treatment growth.

## 1. Introduction

The journey of a cancer patient from diagnosis through treatment and into the realm of survivorship presents an arduous challenge that tests every facet of human resilience and psychological strength. Understanding the mechanisms that underpin psychological resilience in cancer survivors is not just a matter of clinical interest but a pressing necessity to enhance supportive care frameworks that foster well-being and improve quality of life among this vulnerable population (Givi et al., 2023; Khajeh Hasani Rabari et al., 2023; Yusefi et al., 2022).

Recent studies have increasingly focused on the psychological constructs that enable individuals to thrive despite the severe stressors imposed by cancer and its treatment. Psychological resilience, defined as the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress, plays a pivotal role in this context. As highlighted by Costanzo, Ryff, and Singer (2009), resilience in cancer survivors is not merely the capacity to return to a baseline of pre-cancer functioning but involves significant growth and personal transformation, which they term as 'post-traumatic growth' or thriving beyond the initial levels of functioning (Costanzo et al., 2009). Research by Chen et al. (2020) and Yin et al. (2021) on lung cancer patients underscores the multifaceted nature of resilience, showing how factors like hope, social support, and self-efficacy mediate psychological well-being and quality of life (Chen et al., 2020; Yin et al., 2021). Similarly, studies on breast cancer survivors by Chiesi et al. (2022) and Eid et al. (2020) reveal that positive personal resources such as optimism, hope, and religiosity significantly buffer psychological distress and enhance resilience (Chiesi et al., 2022; Eid et al., 2020).

Moreover, the impact of resilience on the mental health and psychosocial adjustment of cancer survivors has been extensively documented. Sharpley et al. (2014) and Chien et al. (2022) provide compelling evidence on the buffering role of resilience against depression in prostate cancer patients (Chien et al., 2022; Sharpley et al., 2014). These findings are complemented by the work of Fradelos et al. (2018) and Ristevska-Dimitrovska et al. (2015), which connect resilience with better mental health outcomes and higher quality of life in breast cancer patients (Fradelos et al., 2018; Ristevska-Dimitrovska et al., 2015).

The role of social and familial support systems is also crucial in this resilience-building process. Studies by Li et al. (2019) and Rusti et al. (2022) highlight how family

resilience and social support networks provide the necessary emotional scaffolding to help survivors navigate the complexities of their condition (Li et al., 2016; Rusti et al., 2022). These findings are consistent with Molina et al. (2014), who emphasize the importance of community and healthcare provider support across the cancer continuum (Molina et al., 2014).

Despite these insights, gaps remain in our understanding of how different populations harness these resilience mechanisms under varying circumstances. Research by Kamen et al. (2017) on sexual minority breast cancer survivors, for instance, sheds light on the unique challenges and resilience pathways in minority groups, suggesting that tailored interventions are required to address the specific needs of diverse survivor populations (Kamen et al., 2017).

The current study aims to extend this body of knowledge by exploring the lived experiences of cancer survivors through qualitative methodologies. By employing semi-structured interviews and employing theoretical saturation, this study seeks to unearth deeper insights into the personal narratives and coping strategies that define the resilience of cancer survivors. This approach not only promises to enrich our understanding of resilience as a dynamic, multifaceted phenomenon but also to inform targeted interventions that can better support survivors in their journey towards recovery and beyond.

## 2. Methods and Materials

### 2.1. Study Design and Participants

This study employed a qualitative research design, focusing on the exploration of psychological resilience among patients who have recovered from cancer. The central methodology involved conducting semi-structured interviews to gather detailed personal narratives and experiences, which provided insights into the psychological coping mechanisms developed during and after treatment.

Participants were selected using purposive sampling to include a diverse group of individuals who have successfully completed cancer treatment and are considered clinically recovered. Eligibility criteria included adults aged 18 and older, a past diagnosis of any type of cancer, and having completed all cancer treatments at least six months prior to the study. Efforts were made to include participants from various demographic backgrounds (age, gender, cancer type, treatment modalities) to enrich the data's comprehensiveness.

The study aimed for theoretical saturation, where no new themes or insights were observed in the data. This was assessed continuously throughout the data collection process, and it was determined that saturation was achieved after conducting interviews with 30 participants, as no additional data altered the emerging themes.

All participants provided written informed consent before participating in the study. Participants were informed about the purpose of the research, the voluntary nature of their participation, and their right to withdraw from the study at any time without any consequences. Confidentiality and anonymity were strictly maintained throughout the study process, with all identifying information removed from the transcripts and any publications or presentations.

## 2.2. Measures

### 2.2.1. Semi-Structured Interview

Data was collected through semi-structured interviews, allowing for flexibility in responses and the ability to probe deeper into relevant topics. The interview guide was developed based on a review of existing literature and aimed to explore areas such as emotional responses to diagnosis and treatment, strategies for resilience and coping, support systems, and reflections on the illness experience. Interviews were conducted by trained researchers, either in person or via online platforms, depending on participant preference, and lasted approximately 60 minutes. All interviews were audio-recorded with participant consent.

## 2.3. Data analysis

Data from the interviews were transcribed verbatim and imported into NVivo, a qualitative data analysis software. This software facilitated the organization and thematic analysis of the data. The analysis followed a grounded theory approach, where codes and themes were developed inductively from the data itself rather than from a pre-existing theoretical framework. Initial codes were generated by reading through the transcripts multiple times to ensure familiarity with the data. These codes were then grouped into larger themes that captured the overarching narratives related to psychological resilience.

## 3. Findings and Results

In the study, a total of 26 participants were interviewed to explore their experiences and psychological resilience post-cancer recovery. The demographic composition of the participants was diverse, comprising 15 females and 11 males, reflecting a broad range of cancer experiences. The age distribution of the participants varied, with 8 participants aged between 30 and 45 years, 10 participants aged between 46 and 60 years, and 8 participants over the age of 60 years. Regarding the types of cancer, the participants had been diagnosed with various forms including breast cancer (6 participants), prostate cancer (5 participants), colorectal cancer (4 participants), lung cancer (3 participants), and other types of cancer including lymphoma, melanoma, and cervical cancer (8 participants). The majority of participants (16) had completed their cancer treatment within the past 1 to 5 years, while 10 participants had been in remission for over 5 years, providing a range of perspectives on post-treatment resilience and recovery.

**Table 1**

*The Results of Qualitative Analysis*

Categories	Subcategories	Concepts (Open Codes)
Emotional Responses	Initial Reaction	Shock, Denial, Fear, Anxiety, Relief (if diagnosis was expected)
	Coping with Treatment	Acceptance, Seeking Information, Emotional Isolation, Emotional Support Seeking, Resilience Building
Coping Strategies	Post-Treatment Emotions	Gratitude, Survivor's Guilt, Anxiety about Recurrence, Sense of Vulnerability
	Personal Strategies	Positive Reframing, Mindfulness, Prioritizing Self-Care, Setting Goals, Maintaining Routine
	Reliance on Support Systems	Family Support, Peer Support, Professional Counseling, Online Communities
Support Systems	Spiritual and Philosophical	Faith, Existential Reevaluation, Acceptance of Fate, Finding Purpose
	Family and Friends	Emotional Support, Practical Help, Constant Presence, Misunderstandings, Evolving Relationships
	Healthcare Providers	Medical Guidance, Emotional Assurance, Communication Style, Availability
Reflections and Growth	Community and Social Networks	Support Groups, Social Media Engagement, Community Volunteering, Public Advocacy
	Changes in Self-Perception	Increased Self-Esteem, Empowerment, Vulnerability, Resilience, Personal Growth

Impact on Relationships	Strengthened Bonds, Withdrawal from Toxic Relationships, New Friendships, Changes in Family Dynamics
Life Philosophy and Priorities	Altered Life Goals, New Hobbies and Interests, Changed Career Aspirations, Enhanced Appreciation for Life

In the qualitative analysis of semi-structured interviews conducted with cancer survivors, four main themes emerged, encompassing various aspects of psychological resilience. Each theme was subdivided into several subthemes, with a total of 17 subthemes identified. The analysis revealed detailed insights into the emotional, coping, support, and reflective experiences of the participants. Below is a narrative description of the themes, subthemes, and representative quotes from the interviews:

### 3.1. Emotional Responses

**Initial Reaction:** Participants often described their initial reaction to the cancer diagnosis in terms of shock and denial. One participant noted, "It was like being hit by a truck. I just couldn't believe it was happening to me." Fear and anxiety were also common, although a few reported a sense of relief, having anticipated the diagnosis due to prior symptoms.

**Coping with Treatment:** Throughout the treatment phase, emotions varied widely. Acceptance and active information seeking were crucial for many: "I decided to arm myself with knowledge, to know what I was up against," one survivor explained. Emotional isolation was a challenge, but many also sought and found solace in emotional support from others.

**Post-Treatment Emotions:** After treatment, emotions remained complex. Gratitude for survival was often tinged with survivor's guilt and anxiety about recurrence. "You're thankful to be alive, but then you wonder why you got lucky when others didn't," a participant shared.

### 3.2. Coping Strategies

**Personal Strategies:** Personal coping strategies included positive reframing and mindfulness, with one survivor stating, "I learned to take each day at a time and find joy in the small things." Self-care and maintaining routines were also highlighted as vital.

**Reliance on Support Systems:** Family and friends were crucial, but professional counseling and peer support groups also played significant roles. "The support group became my lifeline," said another.

**Spiritual and Philosophical:** Spiritual beliefs and existential reevaluation helped many survivors find meaning in their experiences. One noted, "My faith was tested, but

ultimately it gave me strength and a new perspective on what's important in life."

### 3.3. Support Systems

**Family and Friends:** Support from personal networks involved both emotional and practical help. However, relationships could also undergo strains or deepen, with one participant observing, "My family was my rock, but it also changed how we interact. We're more open now, more vulnerable with each other."

**Healthcare Providers:** The role of healthcare providers was crucial, especially the quality of medical guidance and emotional assurance they offered. Effective communication was particularly valued: "My doctor was not just a physician but also a counselor in many ways."

**Community and Social Networks:** Community involvement through support groups and social media played a significant role, with survivors engaging in public advocacy and volunteering, enhancing their sense of purpose and community connection.

### 3.4. Reflections and Growth

**Changes in Self-Perception:** Post-recovery, many survivors reported a significant transformation in self-perception, which included increased self-esteem and resilience. "I see myself as much stronger now; what I went through reshaped me," one survivor reflected.

**Impact on Relationships:** The experience often led to strengthened bonds or the withdrawal from toxic relationships. New friendships formed during recovery were particularly valued.

**Life Philosophy and Priorities:** Survivors frequently mentioned shifts in life goals and priorities, with a renewed appreciation for life's fragility and beauty. "Cancer taught me to prioritize what truly matters. My family, my passions—they're my focus now," shared a participant.

## 4. Discussion and Conclusion

In our qualitative study of cancer survivors, we identified four main themes reflecting the dimensions of psychological resilience. These themes include Emotional Responses, Coping Strategies, Support Systems, and Reflections and Growth. Each theme encompasses various categories and

associated concepts that elucidate the complex psychological dynamics experienced by individuals recovering from cancer.

The theme of Emotional Responses captures the initial and evolving emotional reactions of cancer survivors. This theme is divided into three categories: Initial Reaction, Coping with Treatment, and Post-Treatment Emotions. The Initial Reaction category included concepts such as shock, denial, fear, anxiety, and in some cases, relief. Coping with Treatment detailed how survivors managed their emotions during treatment through acceptance, seeking information, emotional isolation, and support-seeking, ultimately leading to resilience building. The Post-Treatment Emotions category revealed mixed feelings of gratitude, survivor's guilt, ongoing anxiety about recurrence, and a sense of vulnerability, highlighting the emotional complexities that persist even after treatment ends.

The Coping Strategies theme encompasses the methods and resources survivors utilized to deal with their cancer experience. This theme includes categories such as Personal Strategies, Reliance on Support Systems, and Spiritual and Philosophical approaches. Personal Strategies involved positive reframing, mindfulness, prioritizing self-care, setting goals, and maintaining routines. Reliance on Support Systems captured the essential role of family support, peer support, professional counseling, and online communities. The Spiritual and Philosophical category reflected on survivors' engagement with faith, existential reevaluation, acceptance of fate, and the search for purpose.

Support Systems as a theme highlighted the crucial role of external aid and relationships in fostering resilience. It includes categories such as Family and Friends, Healthcare Providers, and Community and Social Networks. Family and Friends provided emotional support, practical help, and were a constant presence, though this sometimes led to evolving or strained relationships. Healthcare Providers were pivotal for medical guidance and emotional assurance, with their communication style significantly impacting patient well-being. Community and Social Networks involved support groups, social media engagement, and community volunteering, which broadened the support landscape for survivors.

The theme of Reflections and Growth discusses the transformative impact of the cancer journey on survivors' self-perception and life outlook. It includes categories such as Changes in Self-Perception and Impact on Relationships. Changes in Self-Perception revealed increased self-esteem, empowerment, vulnerability, resilience, and personal

growth. The Impact on Relationships showed strengthened bonds, withdrawal from toxic relationships, new friendships, and changes in family dynamics. Life Philosophy and Priorities reflected altered life goals, new hobbies and interests, changed career aspirations, and an enhanced appreciation for life.

Our study identified a broad range of emotional responses and coping strategies, which are crucial for managing the psychological impact of cancer diagnosis and treatment. Participants highlighted the importance of acceptance and information-seeking as coping strategies, a finding that aligns with Chen et al. (2020), who emphasized the role of informational support in enhancing psychological resilience among lung cancer patients (Chen et al., 2020). Moreover, the use of personal strategies such as mindfulness and positive reframing resonates with findings from Chiesi et al. (2022), which underscored the value of positive personal resources like resilience, optimism, and hope in mitigating psychological distress during the COVID-19 pandemic among breast cancer patients and survivors (Chiesi et al., 2022).

The significance of support systems was another key theme that emerged from our interviews. The role of family and healthcare providers was frequently cited as pivotal in the resilience-building process. This is consistent with the research by Li et al. (2019), who found family resilience to play a critical role in the psychological well-being of Chinese breast cancer survivors and their caregivers (Li et al., 2019). Similarly, the positive impact of healthcare providers highlighted in our study echoes the findings of Molina et al. (2014), who noted the essential support role played by medical staff across the cancer continuum (Molina et al., 2014).

Many participants reported significant personal growth and changes in life philosophy post-cancer. This notion of 'post-traumatic growth' aligns with the theoretical framework proposed by Costanzo, Ryff, and Singer (2009), who suggest that cancer survivors often experience a shift in life priorities and an enhanced appreciation for life, a phenomenon further supported by the resilience and quality of life studies in breast cancer patients by Ristevska-Dimitrovska et al. (2015) (Costanzo et al., 2009; Ristevska-Dimitrovska et al., 2015).

Interestingly, our study also highlighted how resilience interacts with feelings of demoralization, a less frequently explored area in the resilience literature. Chien et al. (2022) explored this dimension in prostate cancer survivors, suggesting that resilience could play a key role in mitigating

feelings of demoralization. This dual focus on resilience and the potential for psychological struggle provides a more comprehensive view of the survivorship experience, highlighting the importance of addressing both aspects in therapeutic settings (Chien et al., 2022).

This qualitative study explored the psychological resilience of cancer survivors, identifying several key themes that contribute to their ability to adapt and thrive post-recovery. The findings revealed a spectrum of emotional responses ranging from initial shock and denial to eventual acceptance and gratitude. Coping strategies were diverse, including personal methods like mindfulness and positive reframing, and reliance on robust support systems involving family, friends, and healthcare providers. Furthermore, participants reported significant personal growth and changes in life philosophy, underscoring the concept of post-traumatic growth. These narratives highlight the complex interplay of intrinsic strengths and extrinsic supports that together foster resilience in cancer survivors.

The insights garnered from this study underscore the profound impact of psychological resilience on cancer survivors' quality of life. By illustrating the dynamic nature of resilience through personal stories and adaptive strategies, the research emphasizes the importance of comprehensive supportive care that addresses both psychological and physical aspects of cancer recovery. These findings enrich our understanding of the resilience process in survivors, demonstrating that resilience is not just about bouncing back but also about profound personal transformation and growth.

Despite its contributions, this study is not without limitations. The qualitative nature and the relatively small sample size limit the generalizability of the findings. The data is based on self-reported experiences, which may introduce bias and affect the objectivity of the results. Additionally, the study's focus on survivors who have already shown significant signs of recovery may overlook the experiences of those struggling with ongoing challenges.

Future research should aim to expand on these findings by incorporating larger, more diverse participant groups to enhance the generalizability of the results. Quantitative studies could be employed to measure the impact of specific resilience factors and coping strategies identified in this study. Longitudinal research would also be valuable to track changes in resilience and psychological well-being over time, from diagnosis through long-term recovery.

The findings from this study have important implications for clinical practice. Healthcare providers should consider integrating psychosocial support strategies that focus on

building resilience into cancer care programs. Training for healthcare professionals on the importance of emotional support, coping mechanism facilitation, and encouragement of patient-led resilience strategies could significantly enhance patient outcomes. Furthermore, developing community-based support systems and resilience-building programs could help extend the care continuum beyond the clinical setting, supporting survivors in their broader social environments.

### Authors' Contributions

Authors contributed equally to this article.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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### Declaration of Interest

The authors report no conflict of interest.

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### Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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