



Exploring the Psychological Impact of Logotherapy on Hope, Meaning, and Perceived Life Expectancy in Women with Breast Cancer: A Qualitative Study

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Abstract

Background: Breast cancer not only poses significant physical challenges but also deeply affects the psychological and emotional well-being of patients. Logotherapy, a meaning-centered psychotherapeutic approach, has shown potential in enhancing psychological adjustment, emotional resilience, and hope in individuals facing life-threatening illnesses.

Objectives: The present qualitative study explores the psychological impact of logotherapy on hope, perceived emotional well-being, and meaning-making in women diagnosed with breast cancer.

Methods: Using a qualitative content analysis approach, in-depth semi-structured interviews were conducted with 15 women diagnosed with breast cancer, 3 months after completing 4 sessions of logotherapy. Additionally, interviews were held with 10 healthcare professionals (nurses, gynecologists, psychologists) and 6 family members to gain broader perspectives. Participants were selected through purposive sampling until data saturation was achieved.

Results: Three central themes emerged: (1) Internal transformation through meaning-making and acceptance; (2) enhanced emotional coping and psychological adjustment; and (3) strengthened social relationships and support. Participants reported increased hope, improved emotional processing, and a renewed sense of personal meaning following the intervention. However, the study also highlights the importance of ongoing psychosocial support to sustain these benefits over time.

Conclusions: Logotherapy appears to positively influence psychological resilience and emotional well-being in women with breast cancer by promoting hope and a sense of meaning. To ensure long-term benefits, integrated and continuous psychosocial interventions are recommended as a complement to medical care.

Keywords: Logotherapy, Breast Cancer, Psychological Well-Being, Hope, Meaning in Life

1. Background

Breast cancer continues to rise globally despite numerous medical advancements in the field (1). With an incidence of about 2.2 million cases annually, it is not considered the deadliest cancer, largely due to advancements and expansions in diagnostic and treatment techniques (2).

The average number of years of life left at a specific age is shown by the statistical metric known as perceived life expectancy. A person's perceived life expectancy serves as an average measure of how long they can anticipate living. It is an essential measure of health status that is impacted by lifestyle, education, living standards, and access to high-quality medical care (3, 4).

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Although perceived life expectancy reflects overall physical and mental health, it is important to clarify that this qualitative study does not directly measure or claim changes in perceived life expectancy. Existing studies have reported that perceived life expectancy is positively associated with social support, mental health (5), and quality of life (6), and is negatively correlated with psychological disorders like anxiety, stress, and depression (7, 8).

Among women with breast cancer, perceived life expectancy can be influenced by factors including younger age, higher income, marital status, education level, absence of comorbidities, and specific treatment regimens (9-11). Various interventions, such as resistance and aerobic exercise programs (12, 13), self-management techniques (14), psychosocial interventions (15), and meaning-centered therapies (16), have demonstrated positive effects on quality of life and psychological well-being in this population.

Logotherapy, a meaning-centered psychotherapeutic approach, has shown promise in enhancing psychological resilience and well-being among patients with breast cancer. For instance, short-term group logotherapy interventions have been reported to improve psychological resilience and emotional well-being, but the evidence for their impact on perceived life expectancy remains inconclusive and unsupported by quantitative data (16, 17).

While some studies have indicated immediate psychological benefits, such as reduced anxiety and increased hope, following short-term logotherapy (18). There is a lack of robust evidence demonstrating sustained long-term effects.

Moreover, many of these studies involve small sample sizes, typically ranging from 20 to 40 participants, which limits the generalizability of the findings. Although brief group logotherapy interventions appear to enhance psychological and emotional outcomes in women with breast cancer, there is a need for further qualitative exploration to understand the lasting impact on hope and well-being beyond the intervention period.

2. Objectives

Therefore, the present study aims at qualitatively exploring the psychological impact of logotherapy on hope and well-being in women with breast cancer, specifically examining patients' experiences 3 months after completing therapy sessions, without making

claims about clinical outcomes such as perceived life expectancy.

3. Methods

This qualitative study used interviews and a library to analyze content. One of the most crucial qualitative research methods for locating and examining scientific ideas and problems is content analysis (19). All women with breast cancer who were referred to the hospital, along with their close relatives and the medical staff, made up the research population. Women with grade 3 breast cancer, the ability to cooperate and communicate vocally, and the ability to give written agreement to participate in the trial were among the inclusion criteria. Mental illness, blindness or deafness, having a major illness, and the patient's or a significant family member's refusal to continue cooperating were among the exclusion criteria.

Purposive sampling and the theoretical saturation criterion were used in this study to conduct in-depth semi-structured face-to-face interviews with 15 patients with breast cancer, 10 medical staff members (5 nurses, 3 gynecologists, and 2 psychologists), and 6 willing and available family members of patients with breast cancer. The inclusion of healthcare professionals and family members was intended to provide a comprehensive perspective on the psychological and social dimensions of living with breast cancer, enriching the depth and breadth of data.

Women with breast cancer were interviewed 3 months following 4 sessions of the logotherapy intervention to investigate the long-term psychological impact of the intervention. Specifically, we obtained written informed consent from participants prior to the study, and verbal informed consent was later obtained for follow-up interactions or additional data collection.

An effort was made to guarantee the greatest amount of sample diversity in this investigation. The research team looked for people who had extensive knowledge of the subject. The interviews lasted between 60 and 90 minutes. Participants were informed about the research's goal and the interview process at the start of the interview, and their written informed consent was then sought. Data were gathered through semi-structured and in-depth individual interviews.

Participants were asked open-ended questions aimed at exploring their lived experiences and perspectives regarding hope and meaning in the context of breast cancer. The key guiding questions included:

1. What factors have influenced your hope and outlook for the future since your breast cancer diagnosis?

2. In what ways does having a sense of meaning or purpose in life affect your hope for the future and your ability to cope with breast cancer?

The participants gave their permission for the interviews to be recorded. The transcribed interview transcripts were first divided into constituent semantic units and subsequently into the smallest meaningful pieces following multiple assessments. The data analysis followed the conventional content analysis approach through 3 main stages: Open coding, axial coding, and selective coding.

In the open coding stage, meaningful units were identified from the transcripts and assigned initial codes. For example, statements such as “I felt completely lost after the diagnosis” and “I was terrified of dying” were coded as “feeling lost” and “fear of death”.

In the axial coding stage, these initial codes were grouped based on conceptual similarity. The codes “feeling lost”, “fear of death”, and “questioning purpose” were categorized under the subtheme “existential distress”.

In the selective coding phase, higher-order themes were formed by integrating subthemes. For example, the subtheme “existential distress” was incorporated into the overarching theme “struggle for meaning”.

This process was conducted iteratively, with the researchers constantly comparing codes and themes across interviews to ensure consistency and depth.

Two independent coders performed the coding process, and discrepancies were resolved through discussion to ensure reliability and consistency of the codes. Additionally, MAXQDA software was used to assist in organizing the codes and categories.

Before the participants and researchers came to a semantic agreement regarding the categories, the original texts and final categories were read multiple times. Additionally, every effort was made in this study to minimize the researchers’ biases during the data analysis procedure.

The inductive category system creation and the qualitative content analysis approach were used to analyze the data (20). The data were examined, and the findings were reviewed by classifying the categories after the collected data were examined, and the views and interpretations of the subject’s academics were used.

Four criteria, including acceptability, dependability, verifiability, and transferability, were applied to assess the data’s validity (21). Continuous interaction with the research topic and data was utilized to assess the data’s acceptability, and the professors on the research team’s corrective comments were applied to the interview method, their analysis, and the data that were extracted. As stated in assessing acceptance, the integration approach was employed in data collection, and the data were also reviewed by an outside observer with experience in qualitative research to ascertain the data’s dependability.

A summary of the research process was presented, and all actions, including the process of carrying out the work and the manner in which the findings were produced, were meticulously documented to assess the verifiability of the findings. Additionally, member checking was performed by sharing categories with some participants for confirmation, and 4 experts who are actively involved in the issues facing women with breast cancer were given access to the study’s findings in order to assess the data’s transferability.

Among the ethical issues that were observed in this study were the following: Confidentiality of information, obtaining written informed consent for interviews, recording discussions, observation, and the right to withdraw from the study at any time.

3.1. Ethical Considerations

The study protocol was approved by the Research Ethics Committee of Iran University of Medical Sciences (IR.IUMS.REC.1402.140). Researchers obtained written informed consent from participants prior to data collection, followed by verbal assent from participants themselves.

In order to ensure participants’ confidentiality, participants chose their own pseudonyms before the beginning of the first session, which were then used instead of their real names throughout the program.

4. Results

Fifteen patients with breast cancer, 10 medical personnel (5 nurses, 3 gynecologists, and 2 psychologists), and 6 family members of patients with breast cancer participated in this study. With a standard deviation of 12.67 and an average age of 52.60 years, 42% of women with breast cancer had completed high school. Married people made up 69%. An average economic status was reported by 48% of the

participants. The mean duration of breast cancer among the women who participated in the qualitative interviews was 6.70 ± 3.54 years. The participants' demographic data are displayed in Table 1.

Table 1. Demographic Information of Participants^a

| Variables | Values |
|-------------------------------|-------------------|
| Age (y) | 67.60 \pm 12.52 |
| Education level (high school) | 42 |
| Married | 69 |
| Average economic situation | 48 |
| Duration of breast cancer | 54.3 \pm 70.6 |
| Smoking | 25 |
| Drug use | 8 |

^a Values are expressed as percent or mean \pm SD.

The research team evaluated and coded the interview transcripts after speaking with women who had breast cancer and experts. Table 2, titled "Factors Influencing Hope and Well-being in Women with Breast Cancer", presents the codes derived from participants' interviews that address the primary research question.

Table 2. Factors Affecting Hope and Psychological Well-Being in Women with Breast Cancer

| Main Concepts | Sub-concept |
|--|--|
| Diagnosis and treatment experiences | Early detection and diagnosis |
| | Aggressive treatment approaches |
| | Targeted therapies and personalized medicine |
| | Adherence to treatment plans |
| | Response to treatment |
| Patient support and overall well-being | Management of treatment side effects |
| | Emotional and psychological support |
| | Social support and community engagement |
| Lifestyle and recovery processes | Access to palliative and hospice care |
| | Physical rehabilitation and exercise |
| Ongoing care and monitoring | Healthy lifestyle choices |
| | Multidisciplinary care |
| | Continued surveillance and follow-up |
| | Genetic counseling and testing |
| | Clinical trials participation |

4.1. Diagnosis and Treatment

This factor included early detection and diagnosis, aggressive treatment approaches, targeted therapies and personalized medicine, adherence to treatment plans, response to treatment, and management of treatment side effects. This concept refers to the critical

role of early detection and accurate diagnosis in improving patients' health outcomes, the use of aggressive or targeted treatment plans, and how patients respond to these interventions, both physically and psychologically. It also includes the importance of adhering to treatment regimens and managing their side effects effectively. Logotherapy, by fostering acceptance, meaning, and resilience, can influence how patients engage with and persevere through these demanding medical processes, enhancing their psychological coping.

4.1.1. Representative Quotes from Interviewees

- "When I was first diagnosed, it felt like my whole world collapsed. But once I found meaning in the struggle, I started seeing chemotherapy not just as a burden, but as a chance to fight for my life." Patient with breast cancer

- "Some patients stop treatment midway because they lose hope. But those who understand their purpose, even through suffering, are the ones who stick to the plan and respond better." Oncology nurse

- "Side effects are overwhelming for many women. But when they see the treatment as part of a meaningful journey, they manage the discomfort better and stay committed." Clinical psychologist

4.2. Patient Support and Well-Being

This factor included emotional and psychological support, social support and community engagement, and access to palliative and hospice care. This concept encompasses the emotional, psychological, and social resources that help patients with breast cancer cope with their illness. It includes support from family, friends, and healthcare professionals, community involvement, and access to palliative or hospice care when needed. These forms of support play a crucial role in enhancing mental well-being, reducing feelings of isolation, and improving overall quality of life – factors which contribute to patients' perceived well-being and resilience. Logotherapy contributes by helping patients find meaning and inner strength in the face of adversity, thus deepening the impact of support systems.

4.2.1. Representative Quotes from Interviewees

- "What really kept me going was the support of my sister and the cancer support group. Knowing I wasn't alone gave me the strength to keep fighting." Patient with breast cancer

- “Emotional support is just as important as medicine. When a patient feels cared for, truly seen and heard, it changes everything about their recovery.” Psychologist

- “In advanced stages, we focus not only on physical comfort, but on giving patients a sense of peace and dignity. Palliative care helps with that, and meaning-centered counseling plays a big part too.” Palliative care nurse

4.3. Lifestyle and Recovery

This item included physical rehabilitation and exercise, and healthy lifestyle choices. This concept emphasizes the importance of physical rehabilitation, exercise, and making healthy lifestyle choices in the recovery process for patients with breast cancer. Adopting a healthy lifestyle that includes regular physical activity, balanced nutrition, and stress management can significantly improve recovery outcomes. Logotherapy can further enhance this process by helping patients find deeper meaning in their recovery journey, fostering resilience, and encouraging a sense of purpose in maintaining a healthy lifestyle.

4.3.1. Representative Quotes from Interviewees

- “After surgery, I started exercising daily. It wasn’t just for my body, it gave me something to focus on and a reason to keep moving forward. I felt like I was taking control again.” Patient with breast cancer

- “Encouraging patients to adopt healthier lifestyles, like proper diet and exercise, helps them not only feel better physically but also mentally. They start seeing themselves as survivors, not victims.” Gynecologist

- “In my experience, patients who stay physically active and stick to a healthy routine tend to recover faster and have fewer complications. It’s a big part of their emotional healing, too.” Physical therapist

4.4. Ongoing Care and Monitoring

This factor included multidisciplinary care, continued surveillance and follow-up, genetic

counseling and testing, and clinical trials participation. This refers to the continuous, comprehensive care required for patients with breast cancer after initial treatment, including multidisciplinary care, continued surveillance and follow-up visits, genetic counseling, and testing. Ongoing monitoring ensures that any recurrence is detected early, while genetic counseling helps in identifying potential hereditary factors and providing preventive strategies. Participation in clinical trials offers access to new treatments and contributes to the broader understanding of cancer care. These ongoing elements of care are crucial for maintaining patients’ confidence and perceived control over their health management.

4.4.1. Representative Quotes from Interviewees

- “Even after treatment, I know I have regular follow-ups to make sure everything is going well. It gives me peace of mind knowing that the doctors are always keeping an eye on me.” Patient with breast cancer

- “We emphasize the importance of continued surveillance, it’s crucial to catch any potential recurrence as early as possible. Regular check-ups are a lifeline for many patients.” Gynecologist

- “Genetic counseling is something we offer as part of the long-term care. It’s not just about managing the present; it’s also about understanding future risks and prevention, especially for younger patients.” Genetic counselor

- “Being part of a clinical trial gave me hope. It felt like I was doing something important, not just for myself, but for future patients too.” Patient with breast cancer

The codes derived from the qualitative analysis concerning the impact of having a sense of meaning in life on enhancing hope and psychological well-being in women with breast cancer are presented in [Table 3](#). These codes capture participants’ experiences and perceptions of how finding purpose influenced their emotional resilience, treatment adherence, and overall outlook on life throughout their cancer journey.

Table 3. Main Themes and Sub-themes on the Impact of Life Meaning and Purpose on Hope and Coping in Women with Breast Cancer

| Main Concepts | Sub-concepts |
|--------------------------------|--|
| Psychological/internal factors | Psychological resilience |
| | Positive outlook and hope |
| | Better coping strategies |
| Psycho-physiological effects | Improved immune function |
| | Reduced stress |
| Social factors | Strengthening social connections |
| | Reducing social isolation |
| | Promoting resilience and positive coping |
| | Enhancing treatment adherence through purpose |
| | Reinforcing social roles and identity beyond illness |

The results of the study indicated that having a sense of meaning in life positively influences hope and coping in women with breast cancer through various psychological, emotional, and social mechanisms. In summary, finding meaning in life serves as a psychological resource that helps patients navigate the challenges of living with breast cancer by enhancing emotional resilience, social support, and overall well-being, thereby contributing to an improved quality of life and perceived psychological health.

4.5. Psychological/Internal Factors

This item included psychological resilience, positive outlook and hope, and better coping strategies. Logotherapy, by helping individuals find meaning in life, can significantly enhance psychological resources such as resilience, positive outlook, hope, and improved coping mechanisms. When patients discover a sense of purpose, even amidst illness, they often report feeling mentally stronger and more capable of enduring the challenges of treatment and recovery. As one breast cancer survivor shared: "When I stopped asking 'why me?' and started asking 'what now?' everything changed. I found strength in the smallest things." Healthcare professionals echo this impact; a clinical psychologist notes, "Meaning-making fosters emotional resilience, which supports patients' overall well-being." Nurses who work closely with patients also observe that those who find personal meaning, whether in family, faith, or personal goals, tend to engage more actively in their care. One oncology nurse stated, "It's not just the medication; it's the mindset. Patients with a sense of meaning often fight harder and recover better." These psychological resources, nurtured through logotherapy,

enhance emotional well-being and coping during the cancer journey.

4.6. Psycho-physiological Effects

This item included improved immune function and reduced stress. Logotherapy, by helping women with breast cancer discover personal meaning, may impact psychological well-being and also positively influence physiological processes. On the psychological level, meaning enhances resilience, nurtures a positive outlook, and fosters hope, enabling better coping with the emotional burden of cancer. On a physiological level, these positive mental states have been linked in research to improved immune function, reduced stress hormone levels (such as cortisol), better sleep quality, and enhanced overall physical health. Studies suggest that patients who find meaning often experience fewer treatment complications and recover more effectively. As one oncologist expressed:

"Hope and purpose are not abstract; they influence the body's biology. We observe it in how patients heal."

Similarly, a patient with breast cancer shared:

"When I found meaning in helping others through my story, my body felt stronger. I wasn't just surviving; I was truly living."

Healthcare providers also noted that patients with a strong sense of meaning tend to be calmer during treatment, better manage side effects, and stay actively engaged in their recovery process. Therefore, the combination of psychological resilience and improved physiological functioning fostered by logotherapy may contribute significantly to better health outcomes and enhanced perceived life expectancy in women with breast cancer.

4.7. Social Factors

The factor included strengthening social connections, reducing social isolation, promoting resilience and positive coping, enhancing treatment adherence through purpose, and reinforcing social roles and identity beyond illness. Logotherapy not only strengthens internal psychological resilience but also has significant social benefits for women with breast cancer. Helping patients find meaning in their lives encourages stronger social connections, reduces feelings of isolation, and promotes positive coping strategies. Women who discover purpose often feel more empowered to connect with family, friends, and support groups, enhancing their sense of belonging and

reducing the emotional toll of isolation. As one breast cancer survivor explained:

“I thought cancer would push people away, but when I shared my purpose, I found new ways to connect and support others.”

These social ties, in turn, play a critical role in treatment adherence – patients who feel supported and have a clear sense of purpose are more likely to follow through with medical recommendations and continue their treatment plans. Furthermore, meaning in life allows individuals to maintain a sense of social identity and value beyond their illness, fostering a sense of normalcy and self-worth. An oncologist remarked:

“When patients redefine themselves beyond the disease, they often show greater resilience and greater commitment to their care.”

In this way, the integration of social support and a purposeful outlook, which can be cultivated through logotherapy, contributes to both emotional and practical aspects of recovery, enhancing patients' engagement and quality of life.

The findings of this qualitative study suggest that logotherapy has a profound and multifaceted impact on various key factors influencing psychological well-being, hope, and coping in women with breast cancer. These results point to significant improvements in patient support and well-being, lifestyle and recovery, as well as diagnosis and treatment experiences, with a more limited, yet still meaningful, effect on ongoing care and monitoring. The direct impacts of logotherapy on these areas are outlined below.

4.8. Direct Impacts of Logotherapy on Key Factors Influencing Hope and Well-Being

4.8.1. Patient Support and Well-Being

Logotherapy has its most significant impact in this area. Related sub-concepts influenced by logotherapy:

- Increased hope and optimism
- Reduced anxiety and depression
- Improved quality of life
- Enhanced psychological resilience
- Strengthened sense of meaning and purpose

4.8.2. Lifestyle and Recovery

Logotherapy also plays an important role here by fostering motivation and purpose. Related sub-concepts influenced by logotherapy:

- Greater motivation for self-care
- Improved adherence to healthy routines
- More active participation in daily activities
- Positive attitude toward recovery

4.8.3. Diagnosis and Treatment

Logotherapy has an indirect but meaningful impact. Potentially affected sub-concepts:

- Better understanding and acceptance of the illness
- Greater cooperation with treatment
- Reduced resistance to medical interventions
- Empowerment in treatment-related decision-making

4.8.4. Ongoing Care and Monitoring

Logotherapy may have a limited effect here, but still relevant. Potentially affected sub-concepts:

- Increased motivation to attend follow-up care
- Strengthened trust in the treatment process
- Sustained engagement with the healthcare team

Table 4 presents the impacts of logotherapy on key factors influencing hope and well-being in patients with breast cancer. As shown, logotherapy has a very strong effect on enhancing patient support and overall psychological well-being by promoting mental health, a sense of meaning, hope, and improved quality of life. It also demonstrates a significant impact on encouraging healthy lifestyle choices and recovery processes. The influence on diagnosis and treatment experiences is moderate, while its effect on ongoing care and monitoring is relatively low, yet still contributes to sustaining long-term follow-up.

5. Discussion

The findings of this qualitative study indicate that logotherapy can positively influence hope and psychological well-being in women with breast cancer by acting through key dimensions such as psychological/internal factors, psycho physiological responses, and social support. These impacts manifested as enhanced emotional resilience, more adaptive coping strategies, improved subjective perceptions of physical health, and strengthened social connections. However, the results also suggest that hope and well-being are embedded in a broader network of interrelated factors, including medical treatment, lifestyle habits, and healthcare system support. Accordingly, achieving

Table 4. Impacts of Logotherapy on Key Factors Influencing Hope and Well-Being in Patients with Breast Cancer

| Core Factors | Impact Level of Logotherapy | How It Influences Perceived Life Expectancy |
|--|-----------------------------|---|
| Patient support and overall well-being | Very high | Enhances mental health, meaning, hope, and life quality |
| Lifestyle and recovery processes | High | Encourages healthy behaviors and motivation |
| Diagnosis and treatment experiences | Moderate | Promotes acceptance and cooperation with medical care |
| Ongoing care and monitoring | Low | Supports commitment to long-term follow-up and care |

sustained improvements in psychological health and quality of life likely requires multifaceted and ongoing interventions beyond logotherapy alone.

5.1. Psychological/Internal Factors

The findings of this study suggest that fostering a sense of meaning and purpose in life plays a central role in enhancing hope and psychological resilience among women with breast cancer. Meaning-centered interventions such as logotherapy have been shown in previous quantitative research to improve psychological indicators, including hope and adaptive coping capacities, often measured through validated tools like Snyder's Hope Scale and various resilience scales.

For instance, earlier quasi-experimental studies have reported statistically significant increases in hope scores following group logotherapy (e.g., $F = 11.24$, $P \leq 0.001$) (17), as well as large effect sizes indicating reduced death anxiety and increased goal-directed thinking (e.g., $F = 30.78$, $P \leq 0.001$) (16). It is important to note that these statistical results are drawn from prior studies and are presented here for contextualization; the current research employed a qualitative approach and, therefore, does not produce numerical outcomes. Nevertheless, the experiential themes identified in this study, such as enhanced emotional stability, a renewed sense of purpose, and the reframing of illness as an opportunity for growth, are conceptually aligned with those quantitative findings.

The findings of this study underscore the pivotal role of fostering a sense of meaning and purpose in life in enhancing hope and psychological resilience among women with breast cancer. Consistent with Frankl's logotherapy framework, which posits that the search for meaning is a fundamental human drive, meaning-centered interventions have been empirically linked to improvements in key psychological indicators such as hope and adaptive coping.

Theoretically, logotherapy's focus on meaning-making in the midst of suffering aligns with broader existential and psychological frameworks linking

existential meaning to decreased distress and more effective coping strategies (22, 23). In our interviews, many participants described how reconceptualizing their cancer experience — not simply as an affliction but as an opportunity for personal growth and meaning — enabled them to maintain hope in the face of uncertainty and fear. This psychological adaptation reflects the core of Frankl's theory, demonstrating that individuals' capacity to find meaning in adversity fosters resilience and sustains their motivation to persevere.

5.2. Psycho-physiological Effects

Although this qualitative study did not directly assess biomarkers or physiological outcomes, participants' narratives — together with insights from existing research — suggest credible psychophysiological pathways through which logotherapy may promote psychological well-being and indirectly influence physical health.

At the heart of these pathways lies the role of meaning-making in regulating psychological stress. According to Frankl's logotherapy, the human capacity to find meaning in suffering is not only central to psychological endurance but also transformative in how individuals relate to adversity. Participants in this study described how reframing their cancer experience through a meaning-oriented perspective enabled them to maintain emotional resilience, reduce existential anxiety, and reclaim a sense of purpose — all psychological resources that are known to mitigate the harmful physiological effects of chronic stress (24).

From a psychophysiological standpoint, sustained psychological distress is associated with dysregulation of the immune and endocrine systems. Although direct studies on the biological effects of logotherapy remain limited, prior research on psychosocial interventions — including those with a meaning-centered focus — have reported reduced cortisol levels, improved immune functioning, and better treatment adherence in patients with cancer (25). For example, combining logotherapy

with nutritional counseling has been shown to improve depressive symptoms, dietary behaviors, and overall quality of life (25, 26). These findings, though derived from quantitative methods, lend support to the idea that addressing existential dimensions of illness can contribute to overall health.

In line with this, many participants in the current study reported subjective improvements in physical vitality, such as feeling stronger, lighter, or more energized, after engaging in logotherapy. One participant stated, “After I understood why I’m going through this, even my body felt less heavy.” These experiential accounts do not serve as clinical proof but offer valuable qualitative evidence that psychological processes such as meaning-making may influence individuals’ perception of their physical condition.

Such perceptions align with Frankl’s proposition that even in the face of unavoidable suffering, individuals retain the freedom to choose their attitude and meaning. By consciously redefining their relationship with illness – not as a purely destructive force but as a context for growth – participants in this study demonstrated an inner transformation. This shift supported not only emotional adaptation but also fostered a more compassionate and empowered relationship with the body, potentially leading to improved psychophysiological balance.

While definitive causal links between logotherapy and physiological outcomes cannot be drawn from qualitative data, these findings underscore the importance of holistic, integrative care models that attend to both the existential and psychological dimensions of healing. Meaning-based interventions such as logotherapy may serve as vital components in enhancing psychological health and perceived well-being, which in turn may create internal conditions more conducive to recovery and long-term resilience in women with breast cancer.

5.3. Social Factors

Our findings also highlight the importance of social connection, belonging, and support in influencing hope and well-being among patients undergoing logotherapy. While many quantitative logotherapy studies focus primarily on individual psychological change, the group-based format often employed in those interventions inherently provides social interaction, shared narrative, and peer support (16). These features may amplify resilience by normalizing

struggle, validating personal meaning-making, and reducing isolation (16, 17, 27).

Although prior studies seldom isolate “social factors” as independent predictors of survival, the qualitative data here suggest that meaning-making in a communal setting strengthens motivation, reinforces coping strategies, and bolsters perceived social support. Participants credited family, peer groups, and healthcare staff as instrumental in sustaining hope. In effect, social factors may serve as contextual enhancers of psychological mechanisms rather than primary causal agents.

These findings resonate with Frankl’s assertion that meaning is often discovered in relationship with others, especially in the face of shared suffering. Logotherapy does not view individuals as isolated units but as beings-in-the-world, whose sense of meaning is often reinforced through connection, responsibility toward others, and shared purpose. In this context, social interaction serves not merely as external support but as a relational space where personal narratives are shaped, reflected, and validated.

For many participants in this study, meaning-making emerged not only through introspection but through dialogue with significant others, including family members, fellow patients, or caregivers, who witnessed and responded to their suffering. This aligns with Frankl’s view that discovering meaning often occurs in response to love, service, or communal responsibility. For instance, several women expressed that their desire to be strong for their children, or to share their experience to help others, became sources of existential purpose that enhanced their emotional resilience.

By framing their suffering as part of a larger human struggle, rather than an isolated personal tragedy, participants were able to transform helplessness into agency. This process reflects the logotherapeutic principle that even when external circumstances (such as illness) cannot be changed, individuals retain the freedom to change their inner stance. In a communal setting, this inner transformation is often catalyzed and sustained by empathic witnessing and mutual encouragement, which fosters both hope and psychological adaptation.

5.4. Diagnosis, Treatment, and Healthcare Experiences

Another important insight from our study is that participants’ experiences of diagnosis and medical treatment shaped their hope and coping trajectories.

While qualitative data do not allow estimation of survival effects, health services research supports that timely diagnosis, access to care, treatment adherence, and management of side effects are strong determinants of clinical outcomes (28-30). For example, delays in diagnosis beyond 3 months have been associated with worse prognostic features and survival in breast cancer (28). Additionally, treatment side effects and interruptions can undermine patients' mental health and adherence, thereby compromising outcomes (28, 29).

In our interviews, participants expressed that when logotherapy helped them accept their diagnosis and reframe medical challenges meaningfully, they were better able to adhere to treatment plans, manage side effects proactively, and maintain a hopeful outlook even in difficult therapy phases. Therefore, meaning-centered psychological support may facilitate better engagement with medical care and thus indirectly support favorable outcomes.

These observations are closely aligned with Frankl's core premise that suffering, when confronted with a purposeful attitude, can be transformed into a source of growth rather than despair. Participants who reported being able to frame their diagnosis not as a sentence but as a challenge with potential meaning often displayed greater adherence to treatment and more proactive health behaviors. This shift reflects a key logotherapeutic concept that when a person finds meaning in unavoidable suffering, they regain a sense of agency, even in the face of limited control over external events such as illness or medical procedures.

Moreover, several participants described how acceptance of diagnosis – not as passive resignation, but as an active choice to confront reality meaningfully – allowed them to manage fear, navigate uncertainty, and maintain psychological stability during harsh treatment phases. Such psychological adaptation illustrates Frankl's idea of the “tragic triad” (pain, guilt, and death) being bearable through attitudinal change, enabling the individual to preserve dignity and hope even amid medical adversity.

In this light, logotherapy does not merely offer emotional relief; it provides a framework for existential orientation that helps patients reinterpret medical suffering as part of a larger life narrative, one in which they still have the power to choose their stance, act with purpose, and find meaning despite the limitations imposed by illness.

5.5. Patient Support and Overall Well-Being

Another key finding of the current study is that perceived support and overall well-being play a vital role in shaping hope among women with breast cancer. Participants frequently emphasized that emotional support from family, friends, and healthcare providers enhanced their sense of meaning and helped them maintain hope throughout diagnosis and treatment.

While this study does not examine survival outcomes directly, prior research has shown that higher levels of social well-being in the first year after breast cancer diagnosis are associated with better clinical outcomes, including lower recurrence rates and reduced mortality risk. For example, one study found that women with the highest levels of social well-being had a 38% lower risk of mortality and a 48% lower risk of breast cancer recurrence compared to those with the lowest scores (31). These findings support the notion that psychosocial factors, particularly early social support, may influence both psychological adjustment and long-term health trajectories (32).

In this qualitative study, participants described how a sense of being supported – emotionally and practically – served as a foundation for building and sustaining hope. This aligns with previous studies that emphasize the role of psychosocial well-being in fostering resilience and treatment engagement (33, 34). Therefore, while no causal conclusions can be drawn, the data suggest that psychosocial support enhances emotional well-being, which may, in turn, contribute to more positive health experiences and behaviors during cancer recovery.

These findings can be further understood through the lens of logotherapy, which emphasizes that human beings are motivated not only by the pursuit of pleasure or power, but by the will to meaning. Within this framework, social support plays a critical role, not simply as emotional comfort but as a relational context in which individuals are able to construct and validate meaning. In the current study, participants frequently described how the presence of caring others, whether family, peers, or medical staff, helped them to feel seen, valued, and connected, which in turn enabled them to find purpose in their struggle and sustain a hopeful attitude.

Frankl posits that meaning is often found in relationships, acts of love, and the responsibility we feel toward others. Many women in this study articulated how their motivation to recover was strengthened by

their roles as mothers, spouses, or supportive peers. These relational dimensions of meaning helped transform their illness experience from a source of passive suffering into a motivational force for resilience, rooted in connection and responsibility.

Thus, perceived support did more than enhance comfort; it provided the psychological scaffolding for the active construction of hope. By enabling patients to anchor their suffering within a larger narrative of meaning and connection, such support aligned directly with the logotherapeutic model, offering not only relief from distress but a framework for existential survival.

5.6. Lifestyle and Recovery Processes

Another important finding of this study is that lifestyle and recovery processes contribute significantly to the hope and well-being experienced by women with breast cancer. Participants highlighted that adopting healthier behaviors and actively engaging in recovery helped them maintain motivation and optimism throughout their cancer journey.

While this qualitative study does not provide direct evidence on survival outcomes, previous quantitative research suggests that certain lifestyle factors are associated with breast cancer prognosis. For instance, women with unfavorable lifestyle factors, such as overweight status, physical inactivity, and alcohol consumption, have been reported to have a higher risk of postmenopausal breast cancer and poorer survival outcomes (35). One cohort study found that patients with breast cancer with multiple unfavorable lifestyle factors had nearly double the overall mortality risk compared to those with favorable lifestyles (35).

Regular physical activity, both before and after diagnosis, is linked to improved survival chances by reducing inflammation, regulating hormones, and helping maintain a healthy body weight (35, 36). Maintaining a healthy weight, avoiding alcohol, and engaging in exercise are widely recommended as strategies to improve recovery and potentially delay disease progression (35, 37). Additionally, breastfeeding has been associated with a slightly lower breast cancer risk and may contribute positively to long-term outcomes (37, 38).

In this study, participants described how meaning and hope served as motivators to adopt and sustain healthier lifestyle choices, supporting their recovery process. This aligns with existing evidence indicating

that psychological factors can influence behavioral consistency and treatment adherence.

From a logotherapeutic perspective, lifestyle modifications and active engagement in recovery are not merely health behaviors but manifestations of an individual's search for meaning and purpose amid adversity. Frankl's theory suggests that when patients find meaning in their suffering and view their illness journey as a purposeful challenge, they are more likely to exercise agency and adopt behaviors that align with their newly embraced values and goals.

Participants' descriptions of how hope and meaning motivated them to pursue healthier lifestyles illustrate this principle. The act of caring for one's body becomes a form of self-respect and affirmation of life's value, transforming recovery from a passive process into an active existential commitment. This engagement with recovery, fueled by meaning, enhances psychological resilience and creates a positive feedback loop where improved well-being reinforces adherence to beneficial lifestyle choices.

Moreover, this connection between meaning and health behaviors underlines the integrative nature of logotherapy, which addresses not only emotional or cognitive dimensions but also promotes holistic well-being that encompasses physical health. Thus, psychological meaning-making can serve as a critical catalyst that empowers women with breast cancer to confront medical challenges proactively, fostering a sense of control and optimism essential for sustained recovery.

5.7. Ongoing Care and Monitoring

Another key aspect influencing hope was the experience of ongoing care and regular monitoring after treatment. Participants expressed that continued follow-up visits, surveillance imaging, and regular medical contact provided reassurance and a sense of control over their health.

While this qualitative study did not assess survival directly, previous studies indicate that ongoing surveillance, especially through mammography in long-term breast cancer survivors, can aid early detection of recurrences or second primary cancers, potentially improving survival outcomes. For example, among survivors aged 65 and older who remained disease-free for at least 5 years, surveillance mammography between years 6 to 14 post-diagnosis was associated with modest reductions in breast cancer-specific mortality (39).

However, the benefits of such surveillance for older patients with limited perceived life expectancy remain unclear, and some patients with longer expected survival do not receive recommended follow-up care (40, 41). These findings underscore the need for personalized follow-up strategies based on individual prognosis.

Comprehensive follow-up care also includes management of treatment side effects, emotional support, and lifestyle counseling, all of which contribute to maintaining quality of life and psychological well-being (42-49).

From the perspective of Frankl's logotherapy, ongoing care and monitoring are not only clinical necessities but also integral to the patient's existential journey. The continued medical contact and surveillance provide patients with a tangible sense of control and security, which are crucial for sustaining hope and fostering resilience. By integrating these medical routines into their meaning-making process, patients transform what could be perceived as intrusive or anxiety-inducing procedures into affirmations of life and active engagement in their recovery. This reframing aligns with Frankl's concept that individuals find freedom and dignity in how they respond to suffering, suggesting that ongoing care serves as a platform for psychological adaptation and empowerment.

In summary, although survival outcomes in breast cancer are primarily influenced by clinical factors such as stage at diagnosis and tumor biology, this study's findings alongside existing literature emphasize the important roles of psychosocial well-being, lifestyle behaviors, and ongoing medical care in shaping patients' hope, motivation, and recovery experiences.

Meaning in life appears to have a particularly strong influence on psychosocial domains such as patient support and overall well-being, where it fosters hope, resilience, and mental health. It also encourages healthier lifestyle choices and engagement in recovery, although this effect may be somewhat less pronounced. Regarding diagnosis and treatment experiences, meaning may help patients accept their illness and cooperate with medical care, but its impact seems moderate. Finally, ongoing care and long-term monitoring are largely shaped by medical protocols and healthcare systems, with meaning exerting a relatively smaller influence.

Overall, meaning-centered interventions like logotherapy may contribute indirectly to improved health outcomes by enhancing psychological well-being

and promoting positive health behaviors, but claims about direct effects on survival should be made cautiously and supported by further research.

5.8. Conclusions

This qualitative study explored the impact of a logotherapy intervention on hope and psychological well-being in women with breast cancer, assessed 3 months post-intervention. The findings revealed four domains influencing these outcomes: Diagnosis and treatment experiences, patient support and overall well-being, lifestyle and recovery processes, and ongoing care and monitoring, supported by 15 related sub-concepts.

While logotherapy demonstrated positive effects, particularly in enhancing psychological resilience, facilitating meaning-making, and improving emotional health, these effects appeared limited in scope and duration within the studied timeframe. The results emphasize the psychological benefits of logotherapy, rather than clinical outcomes.

Importantly, the study's findings support Viktor Frankl's theoretical proposition that individuals can preserve hope and psychological integrity by discovering meaning in the face of suffering. Participants who engaged in meaning-oriented reflection showed greater emotional adaptability and a stronger sense of agency during their cancer journey.

Logotherapy enhances psychological resilience and hope, enabling patients to reinterpret their cancer experience with greater meaning and inner strength.

To promote long-term improvements in hope, psychological well-being, and quality of life for women with breast cancer, logotherapy should be integrated alongside medical treatment and broader psychosocial and lifestyle interventions. This integration may help patients not only endure the burden of illness but also find existential significance within it, thereby deepening psychological resilience. Ongoing support and periodic reinforcement of meaning-centered approaches may be essential to maintain and enhance initial benefits, thereby fostering more durable outcomes for individuals navigating the challenges of cancer.

5.9. Limitations and Measures Taken to Address Them

This study has several limitations that should be acknowledged. First, the sample size was relatively small and selected through purposive sampling, which may

limit the generalizability of the findings to the broader population of women with breast cancer. To mitigate this, participants were deliberately chosen to represent diverse stages of disease, socioeconomic backgrounds, and family contexts, and data collection continued until theoretical saturation was achieved, ensuring comprehensive coverage of the phenomena studied. Second, as a qualitative study, it provides rich, in-depth insights but does not allow for causal inference or quantitative measurement of the intervention's effects. To strengthen the credibility of the findings, data triangulation was employed by incorporating perspectives from patients, healthcare professionals, and family members. Third, the reliance on self-reported data introduces potential biases such as recall bias and social desirability bias. To minimize these, interviewers were trained to build rapport and encourage honest, reflective responses through open-ended questioning techniques. Fourth, the follow-up period of 3 months may be insufficient to capture the long-term effects of logotherapy on hope and well-being. Therefore, it is recommended that future studies include longer follow-up durations to assess sustained impacts. Fifth, the study was conducted within a specific cultural and geographic context, which may limit the transferability of the findings to other settings. While purposive sampling aimed at enhancing demographic diversity, caution is advised when applying results across different cultural environments. Finally, the study could not fully control for medical and treatment-related variables, such as cancer stage and treatment modality, which may influence psychological outcomes. To address this, the sample included participants with varied clinical characteristics, and the inclusion of healthcare providers' perspectives helped provide a more holistic understanding of influencing factors.

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Footnotes

Authors' Contribution: M. M. conceptualized and led the study, conducted the interviews, and performed the initial data analysis. F. Z. A. contributed to data collection and qualitative data transcription. F. E. and F.

A. assisted with the coding process and literature review. F. S. A. supervised the study, provided methodological guidance, and wrote the final manuscript. All authors contributed to revising the manuscript and approved the final version for submission.

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