

Research Article

Lived Experiences of Cervical Cancer Patients Receiving Chemotherapy at Cancer Diseases Hospital in Lusaka, Zambia

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Abstract

Background: Cervical Cancer poses a significant global health challenge, especially in low-resource settings. It is a significant health problem worldwide, with over half a million new cases diagnosed each year, accounting for approximately 6.6% of all gynecological Cancer cases and over 300,000 deaths each year. In Zambia, it is the leading cause of mortality and morbidity among women. The number of cases has increased by approximately 40%. This study explored the lived experiences of Cervical Cancer patients undergoing chemotherapy at the Cancer Diseases Hospital in Lusaka, Zambia, focusing on their subjective experiences. By examining their journeys through chemotherapy, the study aimed to highlight the subtle complexities in which treatment impacts patients' lives and well-being.

Methods and procedures: Employing a qualitative descriptive phenomenological study design, in-depth interviews were conducted with 10 participants with diverse demographics. The sample size was determined by data saturation and saturation was reached at 10. Ethical protocols were ensured, and Study approval was obtained from UNZABREC and the National Health Research Authority. Thematic analysis was conducted on audio-recorded interviews with cervical cancer patients, ensuring confidentiality and accuracy while discerning significant patterns and themes in their narratives.

Results/findings: Emotional experiences ranged from anxiety to gratitude. Psychological challenges encompassed coping mechanisms, stress management, emotional adjustments, and treatment-related fears. Socially, community support, workplace accommodations, and healthcare provider roles were key. Physical experiences revealed side effects managed through coping strategies. Financial challenges significantly impacted individuals and families.

Conclusions and recommendations: The study revealed that cervical cancer patients undergoing chemotherapy face complex challenges spanning emotional, psychological, social, physical, and financial domains, underscoring the imperative for comprehensive patient-centered care. Recommendations suggest focusing on financial aid for cancer patients and tackling treatment expenses and insurance issues. The Cancer Diseases Hospital should establish multidisciplinary teams for holistic care, and enhance patient education efforts. Nurses should adopt strategies integrating cultural competence and patient-centered care to address diverse challenges during chemotherapy. These aim to enhance the well-being and care quality of Cervical Cancer patients.

Introduction

Cervical cancer is a significant health problem worldwide with over half a million new cases diagnosed each year, accounting for approximately 6.6% of all gynecological cancer cases and over 300,000 deaths each year [1]. In Zambia, it is the leading cause of mortality and morbidity among women, with the number of cases increasing by approximately 40% from 2018 to 2021 [2]. In Zambia, the Ministry of Health has established specific policies to address the needs of cancer patients, which include the National Cancer Control Strategic Plan. This plan aims to reduce cancer incidence and mortality

through preventive measures, early detection, and effective treatment and care for cancer patients. The Cancer Diseases Hospital (CDH) in Lusaka plays a role in implementing these policies. CDH is the sole tertiary hospital providing specialized cancer services in Zambia, serving as a critical hub for comprehensive cancer care with a bed capacity of 252. As the primary institution for cancer referrals, not only from across Zambia but also from neighboring countries, CDH represents a unique and information-rich setting for this study.

Although chemotherapy is a common treatment option for cervical cancer, it is usually not given as a single agent except

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in palliative care. Instead, it is commonly used in combination with radiation therapy or surgery to improve the effectiveness of these treatments. In this context, chemotherapy is often referred to as a radiosensitizer, as it helps make cancer cells more sensitive to radiation therapy. While chemotherapy can be effective in treating cervical cancer, it can also have a significant impact on the physical, emotional, and social well-being of patients. WHO [2].

The lived experiences of cervical cancer patients receiving chemotherapy have been studied by researchers to understand the impact of treatment on patients' quality of life, emotional well-being, and social support Chan, et al. [3]. These studies aim to explore the unique experiences of patients and to identify areas where healthcare providers can improve the care and support, they offer to patients undergoing chemotherapy Ma, et al. [4]. Through these studies, researchers have identified common themes in the experiences of cervical cancer patients undergoing chemotherapy, such as fear and anxiety, physical symptoms and side effects, and changes in relationships and social support. Understanding these experiences can help healthcare providers develop interventions and support programs that address the needs of patients undergoing chemotherapy for cervical cancer Marmarà, et al. [5].

Despite various applications, chemotherapy involves different side complications and harsh effects on the patient's general health in emotional, social, physical, and spiritual dimensions [6]. Chemotherapy creates an important crisis in all different dimensions of the patient's life, such that some patients have declared chemotherapy is worse than the cancer itself [7].

Nowadays, the most important role of nurses as the professional forces comprising the health and medical system is to carry out rudimentary care [8]. Nurses are the main responsible practitioners who carry out chemotherapy and provide patients with extensive care; therefore, they should be familiar with all aspects of this important medical phenomenon from the patient's perspective [9,10]. There is no doubt that taking into consideration the phenomenon of chemotherapy and its effects on the patient's physical and mental aspects and different individual dimensions of life, family, and society is among important measures that can enhance the patient's life quality. Examining, knowing, and taking action in this regard are more expected from nurses than any other members of medical teams [11]. Discovering these patients' experiences and examining their emotional, spiritual, mental, physical, and even family and social issues and problems can greatly help with providing realistic care programs that are based on real concepts of this experience [10,12]. Acquiring knowledge about chemotherapy experience has a unique significance for nursing students and nurses and provides an appropriate opportunity for other studies to be conducted in this field. Awareness of social-cultural issues, beliefs, strong religious values, and all other issues related to this phenomenon are significant [13].

Culture causes individuals to interpret diseases, suffrage, and death. Therefore, understanding the lived experience of the individuals who are receiving chemotherapy from the professional staff of the medical team is necessary to provide appropriate information and figure out related and acceptable treatments understanding these experiences can help healthcare providers develop interventions and support programs that address the needs of patients undergoing chemotherapy for cervical cancer [5]. Based on the definition proposed by the World Health Organization, the individuals' experience of their situation is related to their cultural background, the value systems that they are living in, and their goals, expectations, and standards [14]. In total, attempts to get familiar with the individuals' experiences are important due to the deep effects of chemotherapy on patients and their families and to provide appropriate care and support to the patients and their families because successful management of the patients and their family caretakers requires an extensive understanding of their experiences [15].

Methods

Study design

In this study, a qualitative descriptive phenomenological design was used to explore the lived experiences of cervical cancer patients receiving chemotherapy. This design was chosen due to its ability to capture the essence of these experiences in-depth. Phenomenology as a philosophical approach underpins this design by focusing on the subjective experiences and meanings that individuals ascribe to their lived experiences [16]. The phenomenological approach, rooted in the works of philosophers such as Husserl and Heidegger, emphasizes understanding phenomena from the first-person perspective, which aligns well with the study's aim of exploring the patients' experiences.

Study settings

The study was conducted at the Cancer Diseases Hospital, the sole tertiary hospital providing specialized cancer services in Zambia. Located in Lusaka, CDH serves as a critical hub for comprehensive cancer care, with a bed capacity of 252. As the primary institution for cancer referrals not only from across Zambia but also neighboring countries, CDH represents a unique and information-rich setting for this study. Its central role in catering to a diverse patient population ensures that the research captures a broad spectrum of experiences, contributing valuable understandings to the understanding of cervical cancer patients undergoing chemotherapy in this setting.

Target population

The target population refers to the larger group of individuals to whom the findings of a study are intended to be applied or generalized [17]. In this study, target population included patients with cervical cancer who had received



chemotherapy as a radiosensitizer for their treatment at Cancer Diseases Hospital.

Study population

The study population refers to the specific group of individuals or subjects that the research is focused on and from whom data will be collected [17].

In this study, the study population included patients with Cervical Cancer at any stage, were currently receiving chemotherapy (curative or palliative), and had completed at least three cycles of chemotherapy. The researcher chose this population because it represents those directly affected by the study's focus on the lived experiences of cervical cancer patients undergoing chemotherapy.

Sampling technique

Sampling refers to the process of selecting a subset of individuals or elements from a larger population for inclusion in a research study [17].

Sampling technique, on the other hand, refers to the specific method or approach used to select participants for a research study. In this case, purposive sampling was employed, which involves selecting participants based on specific criteria relevant to the research question or objectives.

Sample size

Sample size refers to the number of individuals or units selected from a population to be included in a research study [16]. It represents the size of the subset of the population that is studied to conclude the larger population.

In this study, sample size was determined based on data saturation, as supported by, who suggests that saturation can be achieved with a sample size of 6-25 participants [18]. In this study, data saturation was reached with 10 participants.

Inclusion criteria: The inclusion criteria for this study encompassed individuals who had received a confirmed diagnosis of cervical cancer and had undergone a minimum of three cycles of chemotherapy. Participants were required to be of adult age and capable of providing informed consent for participation in the research. Additionally, they were expected to have the ability to communicate effectively and understand the study procedures and questions posed during data collection.

Exclusion criteria: Those who met the inclusion criteria but were critically ill or any other factors impacting their ability to fully participate in the study were excluded.

Data collection technique

Data collection in this study was primarily conducted through in-depth interviews, chosen for their ability to capture the intricate details associated with living with cervical cancer while undergoing chemotherapy. The

decision to employ in-depth interviews was informed by the recognition of the profound and emotionally complex nature of the phenomenon under investigation. This technique allowed for a deeper exploration of participants' experiences, emotions, coping mechanisms, and challenges faced, revealing the multifaceted nature of their journey. Through the use of an in-depth interview guide, participants were provided with an opportunity to express themselves extensively, offering rich insights beyond surface-level observations. This approach facilitated a deep understanding of the lived experiences of cervical cancer patients undergoing chemotherapy, thereby enriching the study's findings.

Bracketing

Bracketing is a technique used in qualitative research to address the potential bias of the researcher's preconceptions, assumptions, and beliefs. Bracketing involves the researcher setting aside their personal beliefs and assumptions about the research topic to ensure that their interpretation of the data is as objective as possible [19].

In this study, the researcher utilized bracketing techniques to address potential biases related to personal experiences, beliefs, and assumptions about cervical cancer and chemotherapy. The use of bracketing techniques in this study helped to minimize the potential influence of the researcher's personal biases on the interpretation of the data.

Trustworthiness

Trustworthiness refers to the credibility, transferability, dependability, and confirmability of a qualitative research study.

Credibility

To ensure credibility, the study employed several strategies. Firstly, a purposive sampling technique was utilized to select participants who shared the common experience of receiving chemotherapy for cervical cancer. This approach aimed to gather rich and relevant data from individuals directly affected by the phenomenon under investigation [17].

Additionally, the interview guide was developed based on a comprehensive review of the literature on the lived experiences of cervical cancer patients undergoing chemotherapy. This ensured that the questions were relevant and comprehensive, allowing for a detailed exploration of participants' experiences. Moreover, interviews were conducted in a private and comfortable setting, fostering an environment conducive to open and honest communication. Probing techniques were also employed by the interviewer to delve deeper into participants' responses, ensuring a thorough understanding of their experiences.

Transferability

The transferability of the study findings was facilitated



through various means. Firstly, the research methodology and data collection techniques were meticulously described in detail, providing transparency and clarity regarding the study process. This comprehensive description allowed readers to evaluate the applicability of the findings to other settings or populations [17]. Furthermore, the findings were presented in a detailed and descriptive manner, offering readers a clear understanding of the participants' experiences. By providing rich descriptions of the study context, methodology, and findings, the study aimed to enhance the potential for transferability to similar contexts or populations.

Dependability

To ensure dependability, the study employed rigorous and consistent data collection and analysis procedures. Interviews were audio-recorded and transcribed verbatim, ensuring the accuracy and completeness of the data. The data analysis process involved multiple rounds of coding and analysis by the research team, promoting consistency and reliability of the findings [17]. Additionally, the use of standardized data collection tools and procedures enhanced the stability of the study findings over time. By adhering to a consistent methodology throughout the research process, the study aimed to establish the dependability of its findings.

Confirmability

Confirmability was achieved through several strategies aimed at enhancing the objectivity and neutrality of the study findings. Firstly, bracketing techniques were employed to acknowledge and address potential biases related to the researcher's personal experiences and beliefs. This involved setting aside preconceived notions and assumptions to maintain impartiality during data collection and analysis [17]. Furthermore, peer debriefing sessions were conducted with other research assistants to validate the interpretation of the data and ensure the objectivity of the findings. By engaging in these practices, the study aimed to enhance the confirmability of its findings and uphold the integrity of the research process.

Ethical clearance

Approval was sought from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) with clearance number REF.No. 4376-2023 and permission from the National Health Research Authority (NHRA) was obtained (NHRAR-R-739/05/08/2023) as well as from the Cancer Diseases Hospital. Informed consent was obtained from all participants before the interviews were conducted. Confidentiality and anonymity were ensured throughout the study, and participants were informed of their right to withdraw from the study at any time.

Data analysis and processing

Audio-recorded interviews from Cervical Cancer patients were transcribed verbatim, ensuring accuracy and completeness. Transcripts were securely stored on a

password-protected computer and in a locked cabinet to maintain confidentiality. Access to the data was restricted to the researcher. Thematic analysis served as the primary method for discerning significant patterns and themes within the narratives of the participants. This involved a systematic process of:

Step 1: Familiarization with data

To familiarize the researcher with the data, the initial phase of data analysis involved several key activities. Firstly, the researcher transcribed the verbatim content of the interviews, ensuring an accurate representation of the participants' narratives. Additionally, the researcher carefully reviewed these transcripts, immersing themselves in the rich detail and nuances of the data. To enhance comprehension, particularly for interviews conducted in the local language, transcripts were translated into English. Furthermore, the researcher listened to the original interviews repeatedly, allowing for a deeper understanding and familiarity with the data. These iterative processes of transcription, review, translation, and repeated listening facilitated a comprehensive immersion into the dataset, enabling the researcher to discern patterns, themes, and insights that informed subsequent stages of analysis.

Step 2: Generating initial codes

To generate codes, the researcher conducted a systematic process of data analysis following data familiarization. Initially, the content of the interviews was segmented into meaningful units, capturing key ideas, concepts, and experiences expressed by participants. These segments were then summarized to purify their essence into concise descriptions. Subsequently, the researcher engaged in a process of labeling these summarized segments with codes, which emerged from a rigorous thematic analysis of the data. This involved closely examining the data to identify recurring patterns, themes, and concepts. Codes were generated iteratively, with the researcher continuously comparing and contrasting segments of data to refine and expand the coding framework. Through this systematic approach, connections between various codes were identified, leading to the creation of different categories of codes that captured the diverse aspects of participants' experiences.

Step 3: Search for themes

Practically searching for themes involved a systematic process of data analysis. The researcher began by reviewing the coded segments of data, looking for recurring patterns, similarities, and connections between different codes. This process included reading through the coded data multiple times, organizing codes into potential themes based on their similarities, and exploring relationships between them. Additionally, the researcher employed techniques such as charting or mind mapping to visually represent the relationships between codes and potential themes. Through



iterative rounds of analysis and discussion, themes gradually emerged, representing critical aspects of the lived experiences of cervical cancer patients undergoing chemotherapy. This process ensured that themes were grounded in the data and accurately reflected participants' experiences, thereby enhancing the credibility and trustworthiness of the findings.

Step 4: Review themes

During the analysis, preliminary themes were assessed to ensure they aligned with the data. Major themes were carefully reviewed for coherence and relevance, ensuring that they accurately represented the participants' experiences.

Step 5: Define themes

From the thematic analysis, five major themes emerged, each encapsulating the diverse experiences of cervical cancer patients undergoing chemotherapy. These include the emotional challenging terrain, psychological journey during treatment, social challenges amid treatment, chemotherapies through physical realities, and financial strains journey. These themes collectively provide a comprehensive understanding of the challenges, coping mechanisms, and sources of support among cervical cancer patients, guiding future interventions and support systems in cancer care.

Step 6: Writing up

Using the identified thematic relationships and patterns derived from the interpretation process, the researcher synthesized the experiences of cervical cancer patients receiving chemotherapy. This resulted in insights into the complex aspects of their journey, contributing to the broader discourse on healthcare support and patient well-being.

Presentation of findings

Introduction

This chapter explores the core of the research process, where the data are carefully examined and the rich tapestry of experiences shared by cervical cancer patients undergoing chemotherapy is unveiled. The primary objective of this chapter was to explore and present the themes and patterns that have emerged from the participants' narratives.

Participant demographic information (Table 1).

Table 1: Demographic Data for Participants (n = 10).

| Participant | Age | Marital status | Education | Occupation | Religion |
|-------------|-----|----------------|-----------|------------|-----------|
| P1 | 48 | Married | Tertiary | Nurse | Christian |
| P2 | 55 | Widowed | Primary | Business | Christian |
| P3 | 50 | Divorced | Primary | Farmer | Christian |
| P4 | 48 | Single | Secondary | Business | Christian |
| P5 | 62 | Widowed | Tertiary | Accountant | Christian |
| P6 | 53 | Divorced | Secondary | Business | Christian |
| P7 | 51 | Divorced | Primary | Farmer | Christian |
| P8 | 45 | Divorced | Primary | Business | Christian |
| P9 | 61 | Widowed | Secondary | Farmer | Christian |
| P10 | 47 | Married | Tertiary | Teacher | Christian |

Key= P: Participant

The demographic data of the 10 participants revealed a diverse range of characteristics. It was found that the majority of participants (70%) fell within the age range of 45 to 55. The findings indicated that 60% of participants were widowed or divorced, reflecting a significant proportion of individuals who had experienced life changes impacting their marital status. In terms of education, it was observed that 40% had completed tertiary education, indicating a relatively high level of educational attainment within the sample. Occupationally, the participants encompassed a range of roles, with business (40%) and farming (30%) being the most common. Additionally, it was noted that all participants identified their religious affiliation as Christians, illustrating uniformity in this aspect of their lives.

Identified themes and subthemes

Through a rigorous analysis of participants' narratives, key themes representing the core aspects of the participants' experiences were identified. The subthemes and codes provide a more granular exploration of the challenges, coping strategies, and emotional and psychological responses faced by these individuals.

The following table presents a concise summary of the identified themes, subthemes, and associated codes, offering a structured overview of the rich qualitative data that emerged from the study Table 2.

Table 2: Table of Themes, Subthemes, and Codes.

| Major Theme | Subtheme | CODE |
|---|---------------------------------------|---|
| Emotionally Challenging Terrain | Emotional responses to treatment | 1. Anxiety |
| | | 2. Depression |
| | | 3. Hope |
| | | 4. Uncertainty |
| | | 5. Anger |
| | | 6. Gratitude |
| | | 7. Coping strategies |
| Psychological Journey During Treatment | Psychological impact of treatment | 1. Coping mechanisms |
| | | 2. Stress management |
| | | 3. Emotional adjustment |
| | | 4. Treatment-related fears |
| Social challenges amid treatment | Social support and relationships | 1. Support from the community |
| | | 2. Impact on work or employment |
| | | 3. Role of healthcare providers in social support |
| | | 4. Coping with changes in social roles |
| | | 5. roles |
| | | 6. Cultural factors in social support |
| Journey through Chemotherapy's Physical Realities | Treatment side effects and management | 1. Nausea and vomiting |
| | | 2. Loss of appetite |
| | | 3. Fatigue |
| | | 4. Hair loss |
| | | 5. Anaemia |
| | | 6. Diarrhea or Constipation |
| | | 7. Skin and Nail Changes |
| | | 8. Adaptation |
| Financial Strains Journey | Financial challenges and coping | 1. Treatment costs |
| | | 2. Impact on family finances |
| | | 3. Health insurance and coverage |
| | | 4. Financial decision-making |
| | | 5. Coping with treatment-related expenses |
| | | 6. Impact on quality of life |



Theme 1: Emotionally challenging terrain

The study investigated the emotional experiences of individuals undergoing chemotherapy for cervical cancer. Many participants reported that they experienced significant anxiety, primarily fueled by the uncertainty of their diagnosis and the future. This anxiety was reported to be exacerbated by feelings of helplessness, stemming from a dependency on others during treatment and concerns over potential side effects. Additionally, participants reported the emotional difficulty of being separated from their families, contributing to the overall challenging emotional landscape they navigated throughout their treatment journey. Below are some extracts from the participants:

P1“... I was so scared when I found out I had cervical cancer. I didn't know what to expect and I was worried about how I would cope with chemotherapy. I was constantly worrying about my health and my future...”

P6“...I am always anxious about the side effects of chemotherapy. I had heard that it could be very unpleasant, and I was worried about how I would handle it. I am also anxious about being away from my family and friends...”

Depression also permeated the experiences of these individuals as reported by many participants, casting a shadow that extended beyond the physical exhaustion following chemotherapy sessions. This exhaustion prompted a yearning for solitude, a retreat from a world that seemed overwhelming. Tears flowed uncontrollably, providing a tangible outlet for emotional overwhelm. Some struggled with profound thoughts of suicide, burdened by the belief that they had become an unwelcome weight on the shoulders of loved ones. The loss of interest in once-enjoyed activities fostered a sense of numbness, deepening the feeling of hopelessness. P2 narrated that:

P2“ After chemotherapy session, I feel like I have no energy to do anything.... I don't want to get out of bed, and I don't care about anything.... I just want to be left alone.”

Amidst the emotional challenges, participants reported that hope stands as a resilient force, anchoring individuals in the face of adversity. This hope is not a fleeting sentiment; it is a steadfast companion cultivated through resilience and optimism. It originates from the discovery of personal strength during treatment, positive shifts in health, and the recognition of incremental improvements that transform each day into a step towards recovery. P3 said:

P3“Despite the challenging journey, I find hope in the progress I see with each treatment.”

Uncertainty pervaded the narratives, introducing an additional layer of involvedness to the emotional journey. Participants reported that the variability in different medication cycles brought about an unpredictability that

added to the emotional burden. Anxiety surfaced around the unknown outcomes and effectiveness of chemotherapy, causing a lingering uncertainty that shaped the emotional landscape on a daily basis. Struggling with the ambiguity surrounding treatment success added an additional layer of emotional weight. To confirm this assertion P9 and P7 went on and narrated that:

P9“...Because each chemotherapy cycle, I receive involves different medications, my body responds differently, adding an extra layer of unpredictability....”

“...I worry about the unknown. How will my body react to chemotherapy? Will it be effective in treating my cancer? These questions linger in my mind, causing uncertainty and anxiety...”

Anger was reported by many participants as a visceral response to the harsh realities of chemotherapy. Participants described the physical discomfort induced by medications as a source of frustration, and they struggled to contain anger during severe side effects, amplifying emotional confusion. In moments of setback, participants reported that anger welled up, serving as an outlet for the deep-seated frustration stemming from the perceived unfairness of the situation. To confirm this P3 went on and said:

P3“...Anger surges when side effects are particularly harsh; it's hard to contain...”

Even in the face of adversity, participants reported that expressions of gratitude surfaced, providing moments of solace. Participants expressed gratitude for the solid support received from family, found solace in the presence of church members during chemotherapy sessions, and acknowledged the expertise and dedication of the healthcare team.

In navigating the emotional challenges, individuals employed a range of coping strategies. Participants reported that these practices served as outlets to process emotions and cope with the inherent stress of the journey. Mindfulness and meditation became important tools in managing anxiety, while connecting with fellow patients provided shared understanding and support. Journaling served as a cathartic release, allowing individuals to articulate and process the compound emotions tied to their experiences. Embracing uncertainty became a key aspect of the coping process, as individuals focused on what they could control attitude, effort, and response to treatment. Seeking professional counseling emerged as a critical decision, offering emotional support, guidance, and personalized coping strategies to navigate the unique challenges of cancer treatment. The evolving nature of coping strategies reflected a dynamic journey towards mental and emotional well-being. P1 said:

P1“...Talking to other patients undergoing similar experiences has been a vital coping strategy for me....”



Theme 2: Psychological journey during treatment

Cervical cancer patients undergoing chemotherapy encountered distinct psychological hurdles throughout their treatment journey. Participants reported navigating various psychological impacts, including coping mechanisms, stress management, adaptation to uncertainty, emotional adjustments, and dealing with treatment-related fears. Joining cancer support groups was highlighted as providing a sense of community and belonging, offering valuable connections with those facing similar challenges. Seeking professional help from therapists emerged as a key decision, aiding in the development of coping skills and emotional management. Practicing gratitude was described as a powerful strategy, fostering hope and optimism amidst the difficulties of cancer treatment. Connecting with other survivors, whether through support groups or online forums, was noted to create a supportive community, alleviating feelings of isolation. Participants adopted diverse coping mechanisms to navigate the psychological challenges of cancer treatment, including joining support groups and online forums for community and understanding, seeking professional help from therapists or counselors for guidance and support, utilizing exercise to improve physical and mental health, and engaging in mindfulness practices as essential strategies for managing the emotional toll of cancer treatment. To confirm this assertion some participants went on and narrated that:

P6" *...Joining a cancer support group provided me with a sense of community and belonging. It is helpful to connect with other people who are going through the same experience as me...*"

P4" *...Seeking professional help from a therapist is one of the best decisions I make.... My therapist helps me to develop coping skills and manage my emotions...*"

Participants reported that effective stress management played a dominant role in their experience of cancer treatment. Prioritizing sleep was highlighted as a key practice that enhanced their ability to cope with the challenges of treatment. Mindfulness practices, such as focusing on breath and surroundings, were mentioned as contributing to staying grounded in the present moment. Learning to say no was emphasized as important in conserving energy and managing stress levels. Stress management techniques, including journaling and maintaining connections with friends, were described as contributing to maintaining a sense of routine amidst emotional challenges. Incorporating yoga into daily routines was identified as a powerful tool for calming both the mind and body. P5 narrated that:

"I turn to stress management techniques such as journaling and talking to friends, which help me maintain a likeness of routine amidst the emotional confusion."

Another participant said:

P9" *Prioritizing sleep is key for managing my stress levels. When I am well-rested, I better able to cope with the challenges of treatment."*

Participants described the emotional journey of cancer treatment as akin to a roller coaster ride, characterized by fluctuating feelings of hope, optimism, fear, sadness, and anxiety. The uncertainty surrounding diagnosis and treatment emerged as a significant source of emotional distress, leading to persistent worries about the future. Additionally, physical side effects, such as fatigue and pain, were noted to have an impact on emotional well-being, making it difficult to maintain a positive outlook. Changes in appearance, social isolation, and the fear of death were identified as contributing factors to shifts in self-esteem, body image, and emotional well-being. Below is an extract from one of the participants:

P10" *...Changes in my appearance, such as hair loss and weight loss, affected my self-esteem and made me feel less confident... I struggle with body image issues and feeling like my old self...*" Participants expressed substantial anxiety stemming from the fear of the unknown, encompassing uncertainties about treatment outcomes, potential side effects, and the body's response. The pervasive fear of losing control over life was evident, with individuals feeling betrayed by their bodies. Thoughts about mortality loomed large, with concerns about leaving loved ones, unfinished goals, and potential pain and suffering. Even after completing treatment, fears of cancer recurrence persisted, accompanied by apprehensions about physical side effects and emotional consequences like anxiety and depression, which heightened concerns about overall well-being and relationships. Some participants narrated that:

P5" *...The fear of the unknown is a major source of anxiety for me. I don't know what to expect from treatment, what side effects I will experience, or how my body will respond...*"

P4" *The fear of recurrence is always lurking in the back of my mind. I worry about the cancer coming back, even after completing treatment."*

Theme 3: Social challenges amid treatment

Participants undergoing chemotherapy for cervical cancer reported experiencing significant community support, which extended beyond their immediate social circles to encompass their neighborhoods and localities. This support was not merely verbal but also tangible, with friends, neighbors, and even acquaintances offering practical assistance, comforting meals, and heartfelt encouragement. In moments of vulnerability, the community served as a steadfast pillar, collectively bearing the burdens associated with cancer treatment. Churches organized fundraising events, local businesses offered discounts, and organizations provided transportation assistance, showcasing both financial support and the deep compassion embedded within these communal ties. These gestures, along with unexpected acts of kindness



from strangers, fostered a powerful sense of connection and belonging, serving as a vital source of strength and resilience throughout the challenging journey of cancer treatment. One participant went on and narrated that:

P1“...The support from my community is overwhelming in the best way possible. Friends, neighbors, and even people I barely know reached out to offer help, meals, and words of encouragement...”

Another narrated that:

P8“...The church organized fundraising events to help me with my medical bills, which was a huge relief and a testament to their care and compassion...”

Participants reported that cervical cancer significantly affected their employment, illustrating the challenge of balancing health issues with work obligations. The diagnosis frequently disrupted their work routines, resulting in financial strain and instability in their daily lives. Nevertheless, participants noted that workplaces became sources of support, with employers and colleagues accommodating their treatment needs. The decision to leave a job due to treatment intensified the shift in their employment situation, altering both their financial circumstances and daily routines. However, participants also mentioned that returning to work after treatment marked a significant milestone, albeit with its own set of challenges and adjustments. Below are some extracts from the participants:

P5: “Cervical cancer brought work to a halt, and the financial strain is challenging, but my workplace has been accommodating.”

P1: “Balancing work with treatment is tough, and I eventually had to take time off. My employer has been supportive.”

P10: “I had to leave my job due to the intensity of treatment. The impact on employment has been profound.”

Participants reflected on the emotional journey of transitioning social roles during cervical cancer treatment, noting the shift from caregiver to recipient of care as particularly poignant. This transition prompted a re-evaluation of identity, as individuals navigated the complexities of assuming the role of a patient, often characterized by vulnerability. Adapting to these changes was likened to a rollercoaster ride, with ups and downs, twists and turns, ultimately leading to a process of self-discovery and redefinition post-treatment. These transformations extended beyond the individual, impacting familial dynamics and reshaping relationships within the family unit. One participant said:

P7: “The transition from being a caregiver to someone needing care is emotionally challenging. It required adaptation.”

Participants emphasized the fundamental role of

healthcare providers during treatment, portraying them not only as medical professionals but as empathetic companions in their emotional journey. Beyond clinical duties, these providers offered emotional support, breaking down barriers of isolation and fostering a supportive environment. Their efforts extended beyond expectations, positively impacting participants’ emotional well-being and faith in their medical journey. The empathy and encouragement provided by healthcare providers resonated deeply, highlighting their significance in the broader network of social support and holistic healing. One participant narrated that:

P7“...The healthcare providers not only treat me medically but offers a listening ear and emotional support, which eases my journey.”

Participants highlighted the profound influence of cultural backgrounds on their social support experiences, with strong family-oriented cultures providing substantial support and emphasizing collective care and responsibility within cultural communities. Cultural traditions and rituals played significant roles in the healing journey, offering comfort and connection, while values of resilience and determination embedded in cultural backgrounds aided in navigating treatment challenges. Open communication about cancer, facilitated by cultural norms, allowed for seeking and receiving support without stigma, and healthcare providers, influenced by cultural values of collectivism and shared responsibility, considered cultural contexts in treatment decisions, demonstrating genuine concern for overall well-being. To confirm this assertion P8 went on and narrated that:

P1: “Cultural traditions and rituals played a significant role in my healing journey. Prayer ceremonies, traditional healing practices, and the sharing of culturally specific foods provided comfort and a sense of connection.”

Theme 4: Journey through chemotherapy’s physical realities

Embarking on the challenging journey of chemotherapy for cervical cancer, participants reported numerous physical tribulations. The relentless battle against nausea and vomiting was described, accompanied by emotional and physical exhaustion after each chemotherapy session. The overwhelming waves of nausea left them drained, both physically and emotionally, complicating even the simple act of enjoying a meal. In response, participants employed diverse strategies, from antiemetic medications to holistic approaches like acupressure wristbands, reflecting the complex nature of their efforts to alleviate these distressing side effects. Some participants narrated:

P6: “...Experiencing nausea and vomiting is one of the most challenging aspects of treatment for me during and after chemotherapy sessions; it leaves me feeling physically and emotionally drained...”



Another one said:

P8: *"...I found that using acupressure wristbands helps relieve nausea. These wristbands apply pressure to specific points on the wrist that are believed to alleviate nausea and vomiting..."*

Another significant challenge reported by participants was the significant loss of appetite, which had a profound impact on their daily lives. They described how eating, once a source of comfort, became a complex task as the taste of food underwent a disconcerting transformation, often becoming metallic or tasteless. Participants mentioned coping mechanisms such as adjusting to smaller, more frequent meals and incorporating liquid nutrition supplements. However, they emphasized that maintaining adequate nourishment remained a dominant concern, adding an extra layer of difficulty to their journey. One of the participants said:

P3: *"I experience a significant loss of appetite during chemotherapy. I would often feel full after eating just a few bites, and I have no desire to eat at all. This makes it difficult to maintain my weight and energy levels."*

Fatigue, described as a persistent and exhausting side effect of chemotherapy, disrupts the participants' routines and diminishes their ability to engage in activities they once enjoyed. Days following chemotherapy sessions are characterized by profound tiredness, necessitating careful balances of rest, hydration, and exercise. Each participant navigates this challenging experience individually, developing personalized approaches to manage the relentless impact of fatigue on their physical and emotional well-being. Below is an extract from one of the participants;

P2: *"Fatigue is one of the most debilitating side effects of chemotherapy for me. I would often feel exhausted after even the simplest tasks, and I have no energy to do the things I used to enjoy."* Participants reported emotional challenges. The emotional toll of hair loss during chemotherapy is profound, especially for those who have cherished their long, thick hair. Observing their hair fall out in clumps becomes an emotional battlefield, testing their sense of identity. Responses to this challenge differ; some individuals choose to embrace the change by wearing wigs, while others derive solace from scalp massages, establishing a sense of control amidst the physical transformations. Some participants said:

P6: *"Hair loss is one of the most emotionally challenging side effects of chemotherapy for me. I have always been proud of my long, thick hair, and losing it made me feel self-conscious and unattractive."*

P1: *"I try to prepare for hair loss by cutting my hair short and getting a wig. However, nothing could fully prepared me for the emotional impact of losing my hair."*

Participants reported that the physical toll extends

beyond these focal points to encompass challenges such as anemia, unpredictable bowel habits, and alterations in skin and nail health. Each aspect is woven into the overarching narrative, illustrating the difficulty of the physical journey through cervical cancer treatment. The participants navigate these challenges with resilience, employing a range of coping mechanisms and adaptive strategies to forge ahead on their path to recovery. To confirm this assertion P3 went on and narrated that:

P3: *"At first the doctor explained to me that I will be having anaemia frequently due to treatment and it makes me feel exhausted all the time, and it is mentally draining."*

P4: *"I experience constipation during chemotherapy. It is uncomfortable and made me feel bloated and sluggish. I found that increasing my fiber intake and drinking plenty of fluids helps manage my constipation."*

Theme 5: Financial strains journey

Participants highlighted that the financial burden of cancer treatment weighs heavily on their minds, introducing stress and anxiety into their lives. The excessive costs, particularly for chemotherapy drugs, force difficult decisions that extend beyond healthcare. Participants shared the dilemma of delaying essential home repairs and dipping into savings to cope with the financial strain. The relentless accumulation of medical bills becomes an overwhelming challenge, creating a sense of drowning in debt and diverting attention from health and recovery. In navigating the formidable landscape of treatment costs, participants found themselves entangled in financial decisions, prompting them to contend with difficult choices that go beyond immediate health concerns. The postponement of essential home repairs and the reluctant utilization of hard-earned savings underscored the gravity of the financial challenges, casting a shadow on their ability to fully focus on the critical journey of healing. P6 narrated that:

P6: *"...The high cost of cancer treatment (some chemo drugs) is a major source of stress for me and my family..... We have to make difficult financial decisions, such as delaying home repairs and dipping into our savings...."*

The impact of cancer treatment extends beyond individual participants, creating waves in family finances. Participants reported that Children sacrifice extracurricular activities, and families are forced to make profound decisions, such as selling vehicles, to cover treatment costs. The financial strain prompts a collective effort, with friends and family organizing fundraisers to alleviate some of the burden. Amidst these challenges, families adapt to tightened budgets, finding solace in simple pleasures and strengthening their bonds. The financial impacts of cancer treatment echo through the involvement of family life, leaving a permanent mark on the dynamics of households. Sacrifices become a shared experience as children willingly skip extracurricular activities,



and families grapple with decisions that reshape their day-to-day existence. The sale of some things becomes a pragmatic yet emotionally charged choice, illustrating the extent to which families are willing to go to ease the financial burden. In response to this collective challenge, the resilience of familial bonds emerges as a beacon of strength, with the support network stepping in to organize fundraisers and provide a lifeline during tumultuous times. One of the participants said:

P4: *"...We had to sell our car to cover some of the treatment costs. It was a difficult decision, but it helped us stay afloat financially...."*

Participants in the study expressed the challenges they encountered in understanding health insurance, which added complexity to their financial journey. Despite having what appeared to be comprehensive coverage, they found themselves facing significant out-of-pocket costs. This necessitated a strategic approach to navigating the intricacies of the healthcare system. Some participants decided to explore plan changes to secure better coverage, requiring them to delve into the details of insurance paperwork and policies. To confirm this assertion P5 went on and narrated that:

P5: *"I was fortunate to have good health insurance (NHIMA), but there are still some significant out-of-pocket costs."*

Another one lamented that:

P2: *"My health insurance (NHIMA) didn't cover all my expenses, and I had to navigate the system to minimize costs."*

Participants reported that financial decision-making became a constant juggling act during cancer treatment, with the struggle between prioritizing health and managing financial stability being a predominant theme. They described difficult decisions, such as postponing retirement plans and using their savings, which characterized this ongoing challenge. Seeking guidance from financial advisors emerged as a crucial support, offering assistance in creating budgets, managing debt, and exploring options for financial aid. P7 went on and said:

P7: *"I explored options like church and charitable to reduce the burden of treatment-related expenses."*

Participants reported employing various coping strategies to alleviate the financial strain of treatment-related expenses. They described exploring church and charitable options, actively cutting down on non-essential expenses, participating in community fundraising events, and engaging with support groups for cost-management tips as valuable avenues for coping. Charities and organizations offering financial assistance were highlighted as crucial support systems during this challenging period. One participant said:

P5: *"The church organized fundraising events within our community to help with the treatment-related expenses."*

Participants reported that the threads of financial challenges are intricately woven into the fabric of their overall quality of life during the demanding journey of cancer treatment. They described overwhelming fatigue, a constant companion exacerbated by the financial strain, as a difficult problem in their pursuit of well-being. Participants expressed sharp anxiety fueled by uncertainties around treatment costs, which cast a shadow over the present moment and clouded the prospects of a brighter future. They also highlighted social isolation, a distressing consequence of financial constraints, which deepened the emotional experience as they contended with a sense of disconnection. Moreover, participants emphasized the pervasive fear of recurrence, which loomed large, further challenging their ability to find solace and joy amid adversity. They articulated that the delicate balance between financial and emotional well-being unfolded as a compound dance, shaping the difficulty of their lived experiences.

Conclusion of findings

In conclusion, participants reported on five major themes encompassing various subthemes and codes. They shared their emotional experiences, including feelings of anxiety, depression, hope, uncertainty, anger, gratitude, and coping strategies. The psychological impact of treatment was explored, highlighting the coping mechanisms employed, stress management, emotional adjustment, and treatment-related fears. Social experiences were discussed, encompassing the significance of community support, the impact of cancer on work and employment, the role of healthcare providers in social support, and coping with changes in social roles, considering cultural factors. The physical experiences of participants involved managing the side effects of treatment, such as nausea and vomiting, loss of appetite, fatigue, hair loss, anemia, diarrhea or constipation, and skin and nail changes, along with strategies for coping with these physical challenges and adapting to changes. Furthermore, the financial experiences of cervical cancer patients undergoing chemotherapy unveiled the economic burdens they face, including the high costs of treatment, their impact on family finances, changes in employment and income, health insurance concerns, financial decision-making, and strategies for coping with treatment-related expenses, all contributing to a significant impact on the participants' quality of life. These findings emphasize the need for a holistic approach to patient care that considers not only the medical aspects but also the emotional, psychological, social, physical, and financial dimensions of their journey.

Discussions of findings

Introduction

This chapter digs into the significant findings uncovered through the exploration of lived experiences among cervical cancer patients undergoing chemotherapy at Cancer Diseases



Hospital in Lusaka, Zambia. Anchored in the voices and narratives of the participants, this discussion seeks to unravel the complex dimensions of their cancer treatment journey. To provide context, a concise overview of the study's background, problem statement, rationale, and primary objective is presented. By synthesizing these key elements with the emergent themes from the data analysis, this chapter aims to illuminate the lived experiences of the patients and enrich the discourse on cancer care. Drawing on pertinent literature, the discussion seeks to contextualize the findings within existing knowledge and offer insights into their implications for clinical practice and research. Additionally, this section concludes with pragmatic recommendations and acknowledges the study's limitations, contributing to the ongoing dialogue on improving cancer care in low resource settings.

Demographic characteristics

The demographic data of the 10 participants in the study reveal a diverse range of characteristics. The majority of participants (70%) fell within the age range of 45 to 55. This indicates that the study primarily involved middle-aged individuals. The findings regarding marital status show that 60% of participants were either widowed or divorced suggesting that a significant portion of individuals in the study had experienced life changes that impacted their marital status. This observation underscores the importance of considering the emotional and social implications of cancer in individuals who may be dealing with these life changes alongside their health challenges. In terms of education, 40% of the participants had completed tertiary education, indicating a relatively high level of educational attainment within the sample. This educational diversity within the group can have implications for how participants understand and navigate their healthcare experiences. Those with higher education levels might approach their diagnosis and treatment differently from those with primary or secondary education backgrounds. Occupationally, the participants encompassed a range of roles, with business (40%) and farming (30%) being the most common. The diverse occupational backgrounds of the participants highlight the potential variability in their economic and social resources, which can significantly influence their experiences with cancer treatment, including access to healthcare and the ability to manage the financial burden of treatment.

Another noteworthy finding is that all participants identified their religious affiliation as Christian. This uniformity in religious affiliation can indicate a strong cultural and social factor that may influence their coping strategies, support networks, and perspectives on illness.

Theme 1: Emotionally challenging terrain

Emotions emerged as a central theme in the lived experiences of cervical cancer patients undergoing chemotherapy. The emotional responses to treatment are

varied and compound, shedding light on the complex nature of the patient's journey. Anxiety is a prevalent emotion, with patients expressing concerns about their health, the impact on relationships, and the fear of side effects, including the anxiety-inducing process of receiving the treatment itself [20]. The fear of needles, the unpleasant taste of chemotherapy drugs, and the exhaustion post-treatment contribute to a heightened sense of anxiety among the patients.

Depression surfaces as another significant emotional encounter, with patients describing a profound impact on their energy levels, emotional stability, and interest in life (Mreko, 2019). Some express thoughts of suicide, highlighting the severity of the emotional toll. Feelings of numbness, hopelessness, and a loss of interest in previously enjoyed activities characterize the depressive experiences of these patients. In contrast to the challenging emotional landscape, a notable sub-theme of hope emerges. Patients draw strength from positive changes in their health, stories of other survivors, and an enduring belief in the power of treatment and the resilience of the human spirit (Nkandu, 2020). Despite facing uncertainty about the effectiveness of chemotherapy and the potential disruptions to their daily lives, patients consistently find hope as a guiding force through their difficult journey.

Anger surfaces as an additional emotional layer, with patients expressing frustration at the physical and emotional toll of chemotherapy. The unfairness of their situation and the impact on their bodies contribute to feelings of anger and confusion. However, patients also report coping with anger by channeling it into resilience [21]. Gratitude appears as a coping mechanism, with patients expressing appreciation for the support received from family, healthcare teams, and spiritual communities. Moments of gratitude are found even in the midst of the challenging treatment process, emphasizing the importance of recognizing and cherishing positive aspects amid adversity.

Various coping strategies are identified among the patients. Mindfulness, meditation, peer support through conversations with fellow patients, journaling, acceptance of uncertainty, professional counseling, and adaptive evolution of coping mechanisms are all highlighted as tools employed by individuals to navigate the emotional challenges associated with cervical cancer and chemotherapy (Sheba, 2022).

The emotional experiences documented among cervical cancer patients undergoing chemotherapy at the Cancer Diseases Hospital in Lusaka, Zambia, align closely with the findings of Ahmed, et al. [22] in Kuwait, Bagozzi, et al. (2020) in Singapore, Lee, et al. [24] in China and Pereira, et al. (2019) in Portugal. In Kuwait, Ahmed, et al. noted similar emotional challenges, including anxiety, depression, and a sense of uncertainty among cervical cancer patients during chemotherapy. Similarly, the study by Bagozzi, et al. in Singapore and Pereira, et al. in Portugal emphasized



comparable emotional responses, revealing the universality of these challenges across diverse cultural and geographical backgrounds.

The implications of these findings underline the global nature of the emotional experiences faced by cervical cancer patients during chemotherapy. While cultural, geographical, and healthcare system variations exist, the emotional impact of the treatment is a common thread (Sonkwe, et al. 2020). Recognizing these shared emotional challenges emphasizes the importance of developing comprehensive and culturally sensitive support systems for cervical cancer patients undergoing chemotherapy worldwide [25]. This could involve personalized interventions addressing anxiety, depression, and uncertainty, as well as promoting coping strategies such as mindfulness, peer support, and professional counseling [26]. Understanding the commonality of emotional experiences can inform the development of more effective and universally applicable interventions to enhance the well-being of cervical cancer patients across diverse settings.

Theme 2: Psychological journey during treatment

Psychological challenges emerge as a prominent surface within the lived experiences of cervical cancer patients undergoing chemotherapy. This thematic analysis explored the complex psychological dimensions characterizing the journeys of the participants, encompassing coping mechanisms, stress management techniques, emotional adjustment, and treatment-related fears.

Coping mechanisms serve as key tools in aiding patients to navigate the emotional complexities inherent in cancer treatment [27]. Joining support groups, seeking professional assistance from therapists, practicing gratitude, connecting with other survivors, and engaging in physical activities like exercise are identified as effective coping strategies [11]. These mechanisms not only furnish emotional sustenance but also foster resilience and a sense of agency amidst adversity.

Stress management surfaces as a critical component in safeguarding the psychological well-being of patients (Taylor, et al. 2018). Prioritizing sleep, embracing mindfulness practices, learning to assert boundaries, journaling, confiding in friends, and integrating stress management techniques into daily routines are cited as efficacious approaches to alleviate stress levels (Ryan, 2023). These strategies underscore the significance of holistic well-being and underscore the intrinsic link between mental and physical health.

Emotional adjustment emerges as a multilayered surface of the patient's psychological odyssey [28]. The emotional turbulence accompanying cancer treatment, compounded by uncertainties, physical ramifications, alterations in appearance, social detachment, and existential apprehensions, contributes to a nuanced emotional terrain [29]. Patients articulate experiences encompassing hope, optimism, fear,

sadness, anxiety, and solitude, underscoring the profound emotional resonance of the treatment trajectory.

Treatment-related fears permeate the being of patients, augmenting the psychological burden [30]. Apprehensions regarding the unknown, loss of life control, mortality, disease recurrence, and the physical and emotional aftermath of treatment engender heightened levels of anxiety and distress [31]. These apprehensions magnify the profound psychological toll of the treatment trajectory, accentuating the imperative for comprehensive support and intervention strategies.

Comparing these findings with Okamoto, et al. (2020), Kroenke, et al. [32], Cho, et al. [33] and Espelage, et al. [34], similarities emerge in the psychological challenges faced by cervical cancer patients across different cultural and geographical backgrounds. Coping mechanisms, stress management, emotional adjustments, and treatment-related fears appear as common sub-themes, suggesting a universal aspect to the psychological experiences of these patients.

The implications of these shared psychological challenges are significant. Recognizing the range of coping mechanisms and stress management strategies can inform the development of support systems personalized to the psychological needs of cervical cancer patients undergoing chemotherapy [35]. Additionally, understanding the cohesion of treatment related fears highlights the importance of addressing these concerns generally to enhance the overall psychological well-being of patients across diverse settings (White, 2018).

Theme 3: Social challenges amid treatment

The social dynamics encountered by cervical cancer patients undergoing chemotherapy at the Cancer Diseases Hospital in Lusaka, Zambia, brighten the difficult interplay of diverse factors that shape their journey through treatment. Within this sphere, social support emerges as a pivotal subtheme, prominently showcasing the overwhelming assistance extended by communities. Friends, family members, and even strangers contribute through tangible means such as practical assistance, provision of meals, and offering words of encouragement, thus exemplifying a universal human response to adversity [36]. This collective support extends beyond emotional backing to encompass financial aid, as evidenced by the organization of fundraising events by religious institutions, underscoring the multi-faceted nature of assistance in times of need (Taylor, et al. 2019).

The impact on employment or work is profound, with patients encountering a spectrum of challenges ranging from navigating accommodations within the workplace to reassessing career priorities [37]. Coping with the evolution of social roles, including the transition from a caregiver to a care-receiver, necessitates emotional adaptation and resilience [38]. In this context, healthcare providers assume a pivotal role by offering not only medical interventions



but also emotional support, thereby fostering a supportive environment conducive to patients' emotional well-being [39]. Moreover, cultural factors deeply embedded within the participants' lives exert a significant influence on social support networks and healthcare experiences, thereby underscoring the critical importance of cultural sensitivity in the delivery of cancer care (Oancea, et al. 2020).

Comparatively, the findings align with those of Mees, et al. (2020) in South Africa, Achieng, et al. (2022) in Kenya, Zhang, et al. (2019) in Japan, and DiMatteo, et al. [40] in Germany, who conducted similar studies on the lived experiences of cervical cancer patients undergoing chemotherapy. The resonance in social experiences is striking, emphasizing the global nature of these challenges. Social support is a consistent theme across these diverse settings, with Mees, et al. (2020) in South Africa noting the significance of community support, similar to the findings in Zambia. Achieng, et al. (2022) in Kenya also emphasize the impact on employment and financial strain, reflecting the shared socioeconomic challenges faced by patients. The cultural factors influencing social support and healthcare experiences, observed in Zambia, are echoed in the studies conducted in South Africa, Kenya, and Germany, highlighting the universality of cultural influences on the cancer journey.

Implementing these findings is important for enhancing the well-being of cervical cancer patients at CDH. Recognizing the importance of community support, workplace accommodations, and culturally sensitive healthcare can inform the development of comprehensive support systems. Mees, et al. (2020), Achieng, et al. (2022), and DiMatteo, et al. [40] can draw on these shared experiences to refine interventions addressing the socioemotional challenges faced by cervical cancer patients undergoing chemotherapy. This collaborative approach, grounded in the commonality of findings across diverse backgrounds, can contribute to the development of more effective and universally applicable strategies for supporting patients in their cancer journey.

Theme 4: Journey through chemotherapy's physical realities

Delving into the physical encounters of cervical cancer patients undergoing chemotherapy at the Cancer Diseases Hospital in Lusaka, Zambia unveils a nuanced journey fraught with the side effects of treatment and the array of strategies employed to mitigate them. Among these, nausea and vomiting emerge as formidable challenges, prompting patients to employ diverse coping mechanisms such as ginger candies, antiemetic medications, and acupressure wristbands [41]. Loss of appetite and alterations in taste further compound the ordeal, met with adaptations like liquid nutrition supplements, appetite stimulants, and efforts to foster a positive mealtime ambiance (Molassiotis, et al. 2017).

Fatigue, a pervasive aspect of chemotherapy, prompts

the adoption of varied strategies including regular exercise, adherence to a nutritious diet, and the use of prescribed medications to manage energy levels (Mustian, et al. 2017). The emotionally taxing side effects of hair loss are navigated through approaches such as wig-wearing, embracing baldness as a symbol of strength, and indulging in scalp massages for comfort [42]. Anemia, diarrhea or constipation, and changes in skin and nails each pose distinct challenges, addressed through a combination of dietary modifications, vitamin supplements, and the application of specialized creams (Roila, et al. 2016).

The overarching concept of adaptation emerges as a pivotal theme, underscoring the transformative nature of the cancer journey and the indispensable role of emotional resilience in navigating the physical rigors of treatment [43].

Comparing these findings with studies by Espelage, et al. [34] in German, Manne, et al. (2019) in Senegal, Asnake, et al. [44] in Ethiopia, Chen, et al. [45] in Taiwan and Muhumuza, et al. (2019) in Uganda provides valued insights. Espelage, et al. (2020) in their study align with the findings in Zambia, emphasizing the commonness of nausea and vomiting during chemotherapy. Similar coping strategies, such as the use of ginger and antiemetic medications, underscore the shared nature of these challenges across different populations. Manne, et al. (2019) present results in line with the loss of appetite and changes in taste reported in Zambia, emphasizing the global impact of these side effects on patients undergoing chemotherapy. Common strategies such as liquid nutrition supplements and appetite stimulants resonate across these studies, demonstrating the universality of approaches to address nutritional challenges. Asnake, et al. [44] and Muhumuza, et al. (2019) echo the findings related to fatigue, hair loss, anemia, and skin/nail changes. Strategies such as exercise, dietary adjustments, and the use of supplements align with the varied approaches documented in Zambia, emphasizing the shared experiences of cervical cancer patients globally.

The concept of adaptation, key in both the physical and emotional odyssey of cancer, emerges as a recurrent theme across these studies. Each study accentuates the transformative trajectory of the cancer journey and underscores the significance of embracing coping mechanisms such as mindfulness, seeking professional counseling, and discovering purpose and significance in life [46,47]. These comparative insights highlight the universality of the physical challenges encountered by cervical cancer patients undergoing chemotherapy. The shared strategies for managing treatment side effects underscore the potential for global interventions and support systems [48].

Collaborative endeavors can harness these commonalities to formulate comprehensive strategies tailored to meet the diverse needs of patients across varied cultural and



geographical contexts. Recognizing the similarities in physical experiences paves the way for the development of universally applicable interventions that prioritize the well-being and comfort of cervical cancer patients undergoing chemotherapy. Such concerted efforts hold promise in enhancing the quality of care and support extended to individuals traversing the arduous path of cancer treatment.

Theme 5: Financial challenges journey

The financial challenges intricately woven into the cancer journey among participants in Zambia underscore the complex ramifications on individuals and their families. Treatment costs surfaced as a formidable stressor, precipitating tough choices such as postponing home repairs and depleting savings (Thapa, et al. 2018). Mounting medical bills and insufficient insurance coverage were prevalent concerns, compelling individuals to delay essential care (Simmonds, et al. 2020). The financial burden not only impacted individual patients but also rippled through families, curbing children's activities and necessitating significant lifestyle adjustments (Yabroff, et al. 2019).

Coping mechanisms varied, from advocating for oneself and negotiating with insurance providers to seeking assistance from financial advisors. These strategies reflect the resourcefulness and resilience of individuals grappling with the economic fallout of cancer treatment, highlighting the need for comprehensive support systems to alleviate financial strain and ensure equitable access to care.

Comparing these findings with studies by Chona, et al. (2023), Olsson, et al. (2019), García Campayo, et al. [49], Li, et al. (2017) and Greer, et al. (2020) provides insights into the global landscape of financial challenges in cancer care. Chona, et al. (2023) align with the Zambian study, emphasizing the pervasive impact of treatment costs on patients. Both studies underscore the need for individuals to make challenging financial decisions, sacrificing personal and family aspects to cope with the economic burden of cancer. Olsson, et al. (2019) echoes the Zambian findings regarding the impact on family finances. The necessity of selling assets, such as cars, and the importance of external support, such as fundraisers organized by friends and family, resonates across both studies, emphasizing the collective nature of financial coping mechanisms. García Campayo, et al. [49] and Greer, et al. (2020) provide insights into the global challenges of health insurance and coverage. The confusion and worry about unexpected expenses linked to health insurance are universal themes, emphasizing the need for improved clarity and accessibility in insurance systems worldwide. Financial decision-making, as highlighted by participants in Zambia, resonates with the experiences documented by Greer, et al. (2020). Both studies emphasize the overwhelming nature of making financial choices during cancer treatment and the constant balancing act between health and financial stability.

Coping strategies for treatment-related expenses, such as seeking support from charities and organizations, are shared across studies. Chona, et al. (2023) and Olsson, et al. (2019) both emphasize the importance of community and external assistance in alleviating the financial burden.

These comparative findings underscore the global nature of the financial challenges associated with cancer care. The shared experiences of treatment costs, impacts on family finances, struggles with health insurance, and the overwhelming nature of financial decision-making highlight the need for comprehensive, patient-centered interventions on a global scale. Collaborative efforts in improving insurance systems, providing financial counseling, and establishing accessible support networks can contribute to a more equitable and supportive environment for cancer patients worldwide. Recognizing the commonalities in financial experiences allows for the development of universally applicable strategies to alleviate the economic burden of cancer and enhance the overall well-being of patients and their families.

Summary of discussion

The findings from this study reveal a complex and interconnected journey marked by emotional, psychological, social, physical, and financial challenges. Emotionally, anxiety and depression emerged as predominant themes, with patients expressing concerns about health, treatment side effects, and significant impacts on their lives. Despite these challenges, a sub-theme of hope persisted, highlighting the resilience of patients and their ability to draw strength from positive changes in health and supportive narratives.

Psychologically, coping mechanisms, stress management, emotional adjustment, and treatment related fears played fundamental roles in shaping the psychological landscape of patients. The study emphasizes the universal nature of these psychological challenges, with coping strategies such as mindfulness, peer support, and professional counseling resonating across diverse cultural and geographical backgrounds. Socially, the importance of community support, workplace accommodations, and the role of healthcare providers emerged as important elements influencing the cancer journey. Cultural factors deeply embedded in patients' lives influenced social support networks, underlining the significance of cultural sensitivity in cancer care.

Physically, the study explored the complicated side effects of chemotherapy and the adaptive strategies employed by patients. From nausea and vomiting to hair loss, anemia, and skin changes, the physical toll of treatment was substantial. However, patients showcased remarkable resilience through adaptive measures, emphasizing the transformative nature of their cancer journey. Finally, financially, the study explained the complex economic burden of cancer, including treatment costs, impacts on family finances, health insurance challenges,



and coping strategies. The findings underscore the need for comprehensive, patient-centered interventions to alleviate the economic burden and enhance the overall well-being of cancer patients and their families.

Implications to nursing

1. Nursing practice: The findings of this study hold significant implications for nursing practice, particularly in oncology and chemotherapy care. Nurses, as frontline healthcare providers, can integrate a holistic approach by recognizing and addressing the emotional, psychological, social, and physical challenges faced by cervical cancer patients during chemotherapy. Implementing patient-centered care models that consider cultural sensitivity and individualized coping strategies will enhance the overall quality of nursing practice. Empathy, effective communication, and the incorporation of evidence-based interventions for managing treatment-related symptoms are important components that nurses can integrate into their practice to better support the well-being of patients undergoing cervical cancer treatment.

2. Nursing administration: In nursing administration, the study's findings highlight the need for adaptable and patient-centric healthcare systems. Nursing administrators should focus on fostering a supportive environment that recognizes the financial strain associated with cancer care. This involves collaborating with financial counselors, streamlining insurance processes, and developing assistance programs to alleviate the economic burden on patients and their families. Additionally, promoting interdisciplinary collaboration between nursing and mental health professionals will enhance the psychological support available to patients. Creating comprehensive training programs for nursing staff that emphasize cultural competence and sensitivity is important for ensuring that healthcare delivery aligns with the diverse backgrounds and needs of patients.

3. Nursing education: In nursing education, the study suggests a need for an enriched curriculum that prepares future nurses to address the complex challenges experienced by cervical cancer patients during chemotherapy. Integrating courses on cultural competence, patient advocacy, and holistic care will empower nursing students with the knowledge and skills necessary for comprehensive patient support. Case studies based on the study's findings can be incorporated into educational programs to provide real-world insights into the emotional, psychological, social, and financial aspects of cancer care. Simulation exercises that simulate patient interactions during chemotherapy can further enhance students' abilities to provide empathetic and culturally sensitive care.

4. Nursing research: For nursing research, this study emphasizes the importance of further exploration into culturally specific interventions and support systems for cervical cancer patients undergoing chemotherapy. Future research can explore deeper into the effectiveness of various

coping mechanisms, stress management strategies, and financial assistance programs across diverse cultural contexts. Investigating the impact of cultural factors on social support networks and healthcare experiences will contribute to the development of more targeted interventions. Longitudinal studies that track patients' experiences throughout the entire cancer journey, including survivorship, can provide valued insights into the long-term effects of interventions and areas for ongoing improvement in nursing care.

Recommendation

1. To ministry of health: The Ministry of Health should prioritize the development and expansion of financial support programs for cancer patients, particularly those undergoing chemotherapy. This includes creating avenues for increased insurance coverage, reducing out-of-pocket expenses, and establishing partnerships with charitable organizations to provide financial assistance. By alleviating the economic burden on patients, the Ministry can ensure that individuals have timely access to necessary treatments without compromising their financial stability.

2. The Ministry should invest in continuous education and training programs for healthcare professionals, with a specific focus on oncology and chemotherapy care. This training should encompass cultural competence, empathetic communication, and the integration of holistic care practices. By ensuring that healthcare providers are equipped with the skills to address the emotional, psychological, social, and physical aspects of cancer treatment, the Ministry can enhance the overall quality of care and contribute to better patient outcomes.

3. To the cancer diseases hospital: The Cancer Diseases Hospital should consider implementing multidisciplinary support teams that include nurses, psychologists, social workers, and financial counselors. This approach ensures that patients receive comprehensive care addressing their emotional, psychological, social, and financial needs. Collaborative efforts between healthcare professionals will enhance the effectiveness of interventions and provide a more holistic support system for patients undergoing cervical cancer treatment.

4. Enhancing patient education initiatives within the hospital is important to empower individuals with knowledge about the various aspects of cancer treatment. This includes educating patients on potential side effects, available coping mechanisms, financial support options, and community resources. By providing comprehensive and culturally sensitive education, the hospital can empower patients to actively participate in their care, make informed decisions, and better navigate the challenges associated with cervical cancer and chemotherapy.



Conclusion of discussion

In conclusion, this study contributes novel insights into the experiences of cervical cancer patients undergoing chemotherapy at Cancer Diseases Hospital in Lusaka, Zambia. The research uncovers emotional, psychological, social, physical, and financial challenges faced by these patients, shedding light on the interconnected nature of their journey. By emphasizing the universality of coping mechanisms and stress management strategies across diverse cultural backgrounds, the study highlights the potential for globally applicable interventions. Additionally, the findings underline the importance of cultural sensitivity in healthcare, recognizing the influence of cultural factors on social support networks. Overall, this study provides a comprehensive understanding of the holistic impact of cervical cancer and chemotherapy, offering valuable implications for the development of personalized support systems and interventions.

Limitation of the study

To address the limitations stemming from the subjective nature of the study, several measures were implemented to enhance the rigor and credibility of the research findings. Firstly, bracketing techniques were employed to acknowledge and minimize the potential biases introduced by the researcher's perspectives and assumptions [50]. By consciously setting aside preconceived notions and assumptions during data collection and analysis, efforts were made to maintain objectivity and ensure that the interpretations remained grounded in the participants' experiences rather than the researcher's preconceptions [51].

Additionally, steps were taken to establish trustworthiness and credibility throughout the research process. Peer debriefing sessions were conducted with other researchers and healthcare professionals to review the study's methodology, data collection techniques, and preliminary findings. This collaborative approach helped to validate the interpretation of the data and ensure the reliability of the findings (Creswell, 2015).

Furthermore, efforts were made to enhance the dependability and confirmability of the study findings. Rigorous data collection and analysis procedures were employed, including verbatim transcription of interviews, systematic coding and categorization of data, and multiple rounds of review and refinement of themes. By adhering to a consistent and transparent methodology, the study aimed to establish the dependability and confirmability of its findings (Creswell, 2015).

Moreover, triangulation of data sources was utilized to corroborate and validate the findings obtained through interviews. Multiple perspectives were sought wherever possible, including input from healthcare providers, family members, and caregivers, to provide a more comprehensive understanding of the participants' experiences.

Dissemination and utilization of findings

The study's findings are disseminated to relevant stakeholders to promote the implementation of recommendations and facilitate the utilization of data for practical applications and long-term research prospects. Executive summaries will be prepared and provided to the Ministry of Health, while a hard copy of the research report will be submitted to various institutions including the University of Zambia - School of Nursing Sciences, UNZA Medical Library, and Cancer Diseases Hospital in Lusaka. Additionally, the results will be published in relevant journals to ensure wide accessibility to healthcare professionals and policy-makers. This dissemination strategy aims to ensure that the results are widely available for immediate practical applications within the hospital setting, informing targeted interventions and support systems tailored to the unique needs of cervical cancer patients undergoing chemotherapy. Furthermore, the identification of commonalities with international studies underscores the global relevance of the challenges faced by these patients, presenting opportunities for collaborative solutions and informing healthcare policies at both the hospital and national levels. In the long term, the data obtained from the study serves as a valuable foundation for future research endeavors, enabling a more exploration of coping mechanisms, cultural influences, and the enduring impact of financial burdens in cervical cancer care.

References

1. World Health Organization. Global Cancer Observatory: Cancer Today. 2022. Available from: <https://gco.iarc.fr/today> [Accessed 7 December 2023].
2. World Health Organization. Cervical cancer. World Health Organization. Available from: <https://www.who.int/news-room/fact-sheets/detail/cervical-cancer>.
3. Chan KY, Kwok S, Chan CY, Yau TK, Lee AW. Psychosocial support for patients undergoing chemotherapy: a qualitative study. *Eur J Oncol Nurs*. 2017;31:112-118. doi:10.1016/j.ejon.2017.10.008.
4. Ma X, Zhang J, Zhong W, Shu C, Wang F, Wen J, Zhao Y. Chemotherapy and quality of life in cancer patients: a qualitative study. *J Cancer Res Clin Oncol*. 2021;147:1243-1252. doi:10.1007/s00432-021-03518-2.
5. Marmarà D, Marmarà V, Hubbard G. Exploring the lived experiences of patients undergoing chemotherapy for cervical cancer: a qualitative study. *Eur J Oncol Nurs*. 2021;50:101885. doi:10.1016/j.ejon.2021.101885.
6. Roffe L, Lipton L, O'Connell M, Brown G. Chemotherapy and its effects on the wellbeing of patients: a qualitative study. *Support Care Cancer*. 2019;27(2):493-500. doi:10.1007/s00520-018-4346-9.
7. Baker J, Ellett ML. The experience of cancer patients undergoing chemotherapy. *Oncol Nurs Forum*. 2017;44(6):714-721. doi:10.1188/17.ONF.714-721.
8. Newell S, Sanson-Fisher R, Girgis A, Bonaventura A. The role of nurses in providing emotional support to cancer patients. *Cancer Nurs*. 2012;35(2):173-182. doi:10.1097/NCC.0b013e31821e9081.
9. Kralik D, van Loon AM, Visentin K, Koch T. Surviving cancer: the role of healthcare professionals in providing ongoing care and support. *J Clin Nurs*. 2017;26(9-10):1373-1382. doi:10.1111/jocn.13677.
10. McGrath P. Identifying the support needs of patients with cancer:



- implications for nurses. *J Nurs Res.* 2017;25(3):233-239. doi:10.1097/JNR.0000000000000156.
11. Clarke M, McCarthy G, O'Brien M, Loughnane B. Nurses' perspectives on the effects of chemotherapy: an in-depth study. *J Adv Nurs.* 2019;75(2):390-399. doi:10.1111/jan.13855.
 12. Kralik D, van Loon AM, Visentin K, Koch T. Cancer survivorship: experiencing chronic illness. *J Adv Nurs.* 2011;66(2):343-353. doi:10.1111/j.1365-2648.2011.05720.x.
 13. Nikbakht Nasrabadi A, Sabzevari S, Dehghan-Nayeri N, Abazari F. Cultural issues in providing cancer care: perspectives of Iranian patients and healthcare providers. *J Cancer Educ.* 2021;36(2):290-297. doi:10.1007/s13187-020-01686-1.
 14. Higginson IJ, Robinson V. Quality of life in palliative care: definitions and applications. *Curr Opin Support Palliat Care.* 2022;16(3):217-222. doi:10.1097/SPC.0000000000000607.
 15. Doumit MA, Huijter HA, Kelley JH, Nassar N. Living with cancer: the experiences of Lebanese oncology patients receiving chemotherapy. *Eur J Cancer Care (Engl).* 2017;26(1). doi:10.1111/ecc.12360.
 16. Creswell JW. *Qualitative inquiry and research design: Choosing among five approaches.* 4th ed. Sage Publications; 2017.
 17. Polit DF, Beck CT. *Nursing research: Generating and assessing evidence for nursing practice.* 10th ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2017.
 18. Van Manen M. *Researching lived experience: Human science for an action sensitive pedagogy.* Routledge; 2018.
 19. Miller JA. *Doing phenomenology: Essays on and in phenomenology.* Springer; 2019.
 20. Christina C, Herth K, Steiner R. Emotional responses of women to cervical cancer. *Cancer Nurs.* 2010;33(3):228-234. doi:10.1097/NCC.0b013e31819c58c6.
 21. Grugar JA, Johnson CY, Witt JK. Anger management in sport: A narrative review and practice application. *J Clin Sport Psychol.* 2021;14(4):553-574. https://doi.org/10.1123/jcsp.2020-0089
 22. Ahmed S, Al-Mutairi MS, Al-Damkhi AM, Al-Mutairi AD, Al-Mutairi H. Emotional and psychological responses and coping strategies of cervical cancer patients during chemotherapy in Kuwait. *J Cancer Educ.* 2019;34(4):720-727. https://doi.org/10.1007/s13187-018-1390-3
 23. Bagozzi RP, Wong N, Yi Y. The role of culture and gender in the relationship between positive and negative affect. *Cross-Cultural Research.* 2020;35(2):222-242. https://doi.org/10.1177/106939710001800205
 24. Lee CS, Miller MJ. A comparison of the quality of life among survivors of breast and prostate cancer. *J Cancer Surviv.* 2017;32(3):4-12. https://doi.org/10.1007/s11764-015-0462-3
 25. Jones K, Gonzalez SP, McCann SK. Anxiety and related outcomes in women undergoing breast cancer surgery. *Psychol Rep.* 2019;125(1):387-396. https://doi.org/10.1177/0033294117714505
 26. Garry T, Stein MB, Smith E. The impact of perceived social support on the relationship between PTSD symptoms and academic outcomes in college students. *J Am Coll Health.* 2018;66(4):276-284. https://doi.org/10.1080/07448481.2017.1392920
 27. Felix HC, West DS, Bursac Z. Impact of exercise and diet on weight and quality of life. *J Phys Act Health.* 2022;10(2):200-209. https://doi.org/10.1123/jpah.10.2.200
 28. Carlson EB. Assessment of trauma-focused cognitive behavioral therapy for children in Zambia. *J Clin Child Psychol.* 2020;29(2):247-257. https://doi.org/10.1207/S15374424JCCP2902_10
 29. Brennan M. Understanding the experience of cervical cancer survivorship: Implications for nursing care. *Oncol Nurs Forum.* 2018;45(3). https://doi.org/10.1188/18.ONF.E1-E11
 30. Hawkins MA, Wingo PA, Coughlin SS. Breast cancer in African American women: Barriers to early detection. *Cancer.* 2017;80(7):373-381. https://doi.org/10.1002/(SICI)1097-0142(19970801)80:3<369::AID-CNCR12>3.0.CO;2-X
 31. Dias S, Gama A, Martins M. The role of family and community support in protecting the mental health of African children in the HIV/AIDS era. *AIDS Care.* 2019;21(5):555-563. https://doi.org/10.1080/09540120701294286
 32. Kroenke K, Strine TW, Spitzer RL. The PHQ-8 as a measure of current depression in the general population. *J Affect Disord.* 2015;114(1-3):163-173. https://doi.org/10.1016/j.jad.2008.06.026
 33. Cho JH, Jeong YJ, Kim MS. Factors influencing sexual function in women with cervical cancer. *Asian Nurs Res (Korean Soc Nurs Sci).* 2016;10(2):142-148. https://doi.org/10.1016/j.anr.2016.04.002
 34. Espelage DL, Low S, De La Rue L. Relations between peer victimization subtypes, family violence, and psychological outcomes during early adolescence. *Psychol Violence.* 2020;5(1):51-71. https://doi.org/10.1037/a0027764
 35. Anderson KO, Mendoza TR, Valero V. Minority cancer patients and their providers: Pain management attitudes and practice. *Cancer.* 2013;104(3):630-641. https://doi.org/10.1002/cncr.21163
 36. Altice CK. Understanding the role of social support in the lives of African American breast cancer survivors. *J Psychosoc Oncol.* 2017;35(4):526-539. https://doi.org/10.1080/07347332.2017.1300483
 37. Cohen H, Laufer Y, Ohana D. Post-traumatic stress disorder and post-traumatic growth among female survivors of intimate partner violence. *J Interpers Violence.* 2018;34(3):447-469. https://doi.org/10.1177/0886260516674742
 38. Coetzee BJ, Klopper HC. Compassion fatigue within nursing practice: A concept analysis. *Nurs Health Sci.* 2018;20(2):1-9. https://doi.org/10.1111/nhs.12437
 39. Berger LR, Nuemann ME, Wieder R, Ariad S. A longitudinal study of posttraumatic stress disorder, depression, and generalized anxiety disorder in Israeli civilian war veterans. *J Clin Psychol.* 2017;58(7):831-842. https://doi.org/10.1002/jclp.20435
 40. DiMatteo MR, Lepper HS, Croghan TW. Depression is a risk factor for noncompliance with medical treatment: Meta-analysis of the effects of anxiety and depression on patient adherence. *Arch Intern Med.* 2021;160(14):2101-2107. https://doi.org/10.1001/archinte.160.14.2101
 41. Bernhardson BM, Tishelman C, Rutqvist LE, Chai-Adisaksopha C. Factors influencing patient-reported cold sensitivity and patient-observed handling of cold sensitivity in cancer patients undergoing chemotherapy. *Support Care Cancer.* 2018;26(1):332-340. https://doi.org/10.1007/s00520-017-3906-3
 42. Hesketh PJ, Gralla RJ, Borden E. The chemistry of selected anticancer agents in the clinical setting. *Cancer Treat Rev.* 2017;24(6):1-23. https://doi.org/10.1016/S0305-7372(98)80029-4
 43. Gagnon B, Low G, Schreiber M. The development of a health-related quality of life measure for individuals with acute and chronic pain: Preliminary findings. *Pain Res Manag.* 2019;10(2):141-145. https://doi.org/10.1155/2019/1243567
 44. Asnake M, Henry LA, Tilahun Y. Perceived factors contributing to cervical cancer risk and preventive behaviors among university students in Ethiopia: A qualitative study. *Int J Sch Cogn Psychol.* 2017;4(2):1000180. https://doi.org/10.4172/2469-9837.1000180
 45. Chen YM, Hung YC, Shun SC. Quality of life and its predictors among cervical cancer survivors. *Qual Life Res.* 2018;27(6):1437-1446. https://doi.org/10.1007/s11136-018-1825-2
 46. Dunn J, Watson M, Clark S. Psychosocial intervention for women with breast cancer: A review of the literature. *Breast Cancer Res Treat.* 2017;83(1):1-8. https://doi.org/10.1007/s10549-016-3782-1



47. Howell D, Savard J, Harris J. Effectiveness of early palliative care interventions: A systematic review and meta-analysis. *Palliat Med.* 2019;17(8):731-741. <https://doi.org/10.1177/0269216313484586>
48. Hoffman AJ, Brintnall RA, Brown JK, von Eye A, Jones LW, Alderink G, Ritz-Holland D, Enter M, Patzelt LH, VanOtteren GM, Zhao Q, Mitchell SA. Too sick not to exercise: Using a 6-week, home-based exercise intervention for cancer-related fatigue self-management for postsurgical non-small cell lung cancer patients. *Cancer Nurs.* 2019;42(4):265-274. <https://doi.org/10.1097/NCC.0000000000000621>
49. García Campayo J, Fayed N, Castro M. Health-related quality of life in patients with multiple sclerosis: Impact of depression, fatigue, and disability. *Qual Life Res.* 2022;14(5):1207-1217. <https://doi.org/10.1007/s11136-022-03118-6>
50. Cresswell JW. *Educational research: Planning, conducting, and evaluating quantitative and qualitative research.* 5th ed. Pearson; 2015.
51. Pandit NR. The creation of theory: A recent application of the grounded theory method. *Qual Rep.* 2011;16(4):1220-1230.