
Research

A Qualitative Study on the Coping Mechanisms of The Side Effects of Cytotoxic Drugs on the Quality of Life of Breast Cancer Patients.

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Abstract: Many cytotoxic drugs used to treat cancer are known to be teratogenic and mutagenic to patients. The quality of life of breast cancer patients undergoing chemotherapy is a critical area of focus in oncology care. In Nigeria, breast cancer patients are often ill-prepared to cope with the untoward effects associated with chemotherapy. The purpose of the study was to determine the awareness of cytotoxic drug side effects on the quality of life of breast cancer patients attending selected healthcare facilities.

The present study utilized a mixed-method research approach with an explanatory sequential design, using a case study framework. The study was conducted at three selected hospitals in South-East Nigeria (Imo State University Teaching Hospital, Orlu, Abia State University Teaching Hospital, Aba, and Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra State) between January 2023 and April 2023. A multistage sampling technique involving simple random sampling, purposive sampling, and census sampling was adopted. Two hundred and sixty-four (264) breast cancer patients were recruited, out of which 27 participated in the qualitative part of the study. Eleven (11) in-depth interviews were conducted, and two (2) focus group discussions (FGDs) consisting of eight persons per group (a total of 16 persons) were held for data collection. Thematic analysis was used for the data.

The results illuminated two major themes: repulsive realities and holistic evaluation of life, along with eight sub-themes. The findings revealed that participants were aware of side effects such as vomiting, hair loss, and peripheral neuropathy. Coping mechanisms adopted included family support, spiritual support, and medical advice. The results also showed that patients had a generally low quality of life associated with treatment side effects, specifically in the domains of physical well-being, functionality, emotional and psychological well-being, social well-being, relationships, and financial and economic stability.

The study concluded that there is a transitional pathway from being a novice about treatment options to developing awareness, including navigating myths and misconceptions, before reaching full cognizance, alongside a general low quality of life associated with treatment side effects. It was recommended that healthcare providers provide more information about chemotherapy side effects to patients to enable informed decision-making.

Keywords: Chemotherapy, Awareness, Side Effects, Coping Mechanism, Quality Of Life

Introduction

Cancer is a leading cause of morbidity and mortality in developed countries [1,2]. It has also been identified as one of the leading causes of death worldwide, accounting for nearly 10 million deaths in 2020 [3]. Quality of life and chemotherapy for cancer patients, along with their associated side effects and management, are topical issues in oncology practice. These matters are subjects of discourse in various contexts because they are intertwined with cumulative effects that impact patients' health. Quality of life, which pertains to individuals' feelings or perceptions about their current experiences and situations, significantly affects overall well-being. The way an individual considers their health, comfort, or happiness in relation to interventions and socio-cultural contexts influences the actions and decisions that are ultimately made. In other words, a person's feelings about their life (conceptually referred to as quality of life, QOL) is a fundamental concept in every aspect of human existence. Based on its essence, various attempts have been made to describe, define, or represent the concept adequately. As [4] points out, quality of life is a highly subjective measure of happiness that is an essential component of many financial decisions.

Quality of life factors vary depending on personal preferences, but most often include an individual's material situation, health, safety, family life, satisfaction with work, and free time. There is no single and unified definition of quality of life, but many that seek to describe this phenomenon as well as possible. The Oxford Dictionary (2023) defines quality of life as the standard of health, comfort, and happiness experienced by an individual or group. It is also captured as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. These definitions of quality of life show that it is a concept that has links with all spheres of human existence, be it social, financial,

illness, or treatment. It also implies that the meaning of quality of life cannot be the same for everybody. Consequently, quality of life is an issue that is often investigated in health care. Its significance lies in the fact that quality of life is associated with various health variables and is also an important outcome of health conditions. The factors that interfere with or affect quality of life are diverse. It has been reported that quality of life is affected by factors such as age, menopausal status, and previous therapy. For patients, the factors affecting their quality of life are largely case-dependent. Among cancer patients, however, factors that negatively impact their quality of life include the disease itself, the adopted treatment, and the duration of illness. The search for the meaning of life after a diagnosis of cancer is also another factor that positively affects the quality of life of cancer patients.

Breast cancer, like other types of cancer, has various treatment modalities, including chemotherapy, which is regarded as the main therapy for breast cancer and has greatly improved the survival rates of sufferers [9]. However, chemotherapy is associated with various discomforting side effects that patients must contend with. Such side effects include nausea and vomiting, hair loss, and fatigue, among others. The impact of chemotherapy side effects can be significant enough to hamper the quality of life of breast cancer patients, affecting their emotional functioning, sexual functioning, and financial stability [10]. The feeling of poor quality of life among patients becomes more pronounced if they lack adequate awareness of chemotherapy-related side effects and their potential to reduce quality of life. Based on the foregoing, the researcher considered it imperative to explore awareness of chemotherapy and its side effects as they relate to the quality of life of breast cancer patients in selected health facilities in Southeast Nigeria.

Materials and Methods

Study Design and Setting

The study adopted a case study method for the qualitative phase, ensuring a robust and in-depth analysis. In this phase, in-depth interviews and focus group discussions (FGDs) were conducted using the case study method. This phase explored patients' real-life experiences with cytotoxic drugs and their side effects; it provides deeper insights into why some patients have more awareness than others and how they perceive the impact of side effects on their quality of life. The case study method allows for an in-depth examination of selected individuals or groups, offering rich contextual insights that complement the quantitative findings. This study ensured a thorough exploration of the awareness of cytotoxic drugs and their side effects on breast cancer patients' quality of life. This

approach bridges statistical trends with real-life experiences, leading to more informed healthcare policies and interventions.

Study Participants and Sampling

Sampling technique

Census sampling was used to ensure that 264 participants in the quantitative study (published) were recruited, while a purposive sampling technique was employed to select 27 participants (10% of the sample size, 264) for the qualitative part of the study.

A purposive sampling technique was employed to select 27 participants who possessed rich information and experience related to breast cancer diagnosis and chemotherapy treatment in selected hospitals. This non-probability sampling method allowed for the intentional selection of participants based on specific characteristics relevant to the study objective.

Eleven (11) in-depth interviews were conducted with selected participants. Additionally, two (2) focus group discussions (FGDs), which consisted of eight persons per group, resulted in a total of sixteen persons. Therefore, 11 in-depth interviews, added to 2 FGDs of 8 persons per group, equals 27 ($11 + 16 = 27$).

Twenty-seven breast cancer patients who were female, diagnosed with breast cancer, and receiving chemotherapy in the selected hospitals, visiting the oncology outpatient department, were recruited after an explanation of the study was provided. Written informed consent was obtained from each study participant, and the anonymity and confidentiality of each participant were maintained during the study. Ethical approval for this study was obtained from the Institutional Ethical Committee (IMSU/COM/REC/1). Cancer patients diagnosed with breast cancer but not on chemotherapy, those who were too ill to participate, and those unwilling to be included were excluded from the study.

Data collection tools and techniques

Data collection tools consisted of an interview and a focus group discussion guide that was used for the collection of data during in-depth interviews and Focus Group Discussion (FGD) sessions to explore the awareness of cytotoxic drug side effects and quality of life among breast cancer patients in selected health facilities. In-depth interviews (IDIs) are a qualitative research method involving one-on-one, detailed conversations that explore participants' personal experiences, beliefs, and perceptions. In the context of assessing awareness of cytotoxic drug side effects and quality of life among breast cancer patients in selected health facilities in Southeast Nigeria, IDIs can provide profound

insights into how patients understand and cope with the adverse effects of chemotherapy. In this study, purposive sampling was used to identify breast cancer patients undergoing chemotherapy who could provide rich, relevant information.

The researcher developed an interview guide focusing on patients' awareness of chemotherapy side effects, sources of their information, personal experiences with side effects, the impact of side effects on their quality of life, as well as coping mechanisms and support systems. During the interview process, rapport was established to ensure participants felt comfortable sharing sensitive information; open-ended questions were asked to encourage detailed responses. Additionally, a probing technique was used to delve deeper into specific experiences or feelings. With consent, audio recordings of the interviews were made for accuracy. In-depth interviews (IDIs) allow for a comprehensive exploration of patients' knowledge about chemotherapy side effects and how these affect their daily lives. They capture individual variations in experiences, providing a nuanced understanding of the impact on quality of life. They also help to uncover gaps in patients' knowledge or misconceptions about chemotherapy, as well as provide insights into cultural beliefs and practices that influence patients' perceptions and management of side effects. Two focus group discussions (FGDs) of eight persons each, giving a total of sixteen persons, were conducted. Therefore, with 11 in-depth interviews added to 2 FGDs of 8 persons per group, the total is 27 participants.

Method of Qualitative Data Analysis

Braun and Clarke's (2016) thematic analysis method was used. For qualitative aspects, the data were transcribed verbatim and reviewed for errors and omissions. The transcripts were reviewed alongside the digital records to ensure the accuracy of the interview recordings (member checking). Transcribed data were entered into NVivo version 12 for Windows, and thematic analysis was employed to analyse the transcribed data, leading to the development of the following methods. This involved going through the stages of organising and preparing the data, developing a general sense, coding the data, describing and identifying themes, representing findings, and interpreting the data.

Results

This section presents the data generated from eleven (11) in-depth interviews and two focus group sessions of eight patients per group, making a total of sixteen, with the eleven in-depth interviews giving rise to a total of twenty-seven breast cancer patients receiving cytotoxic drugs. The section also presents the two themes and eight sub-themes

generated from the cross-group analysis of patients, as well as the overview shown in the figure below, followed by a presentation of each of the themes, namely: Repulsive Realities and Holistic Evaluation of Life.

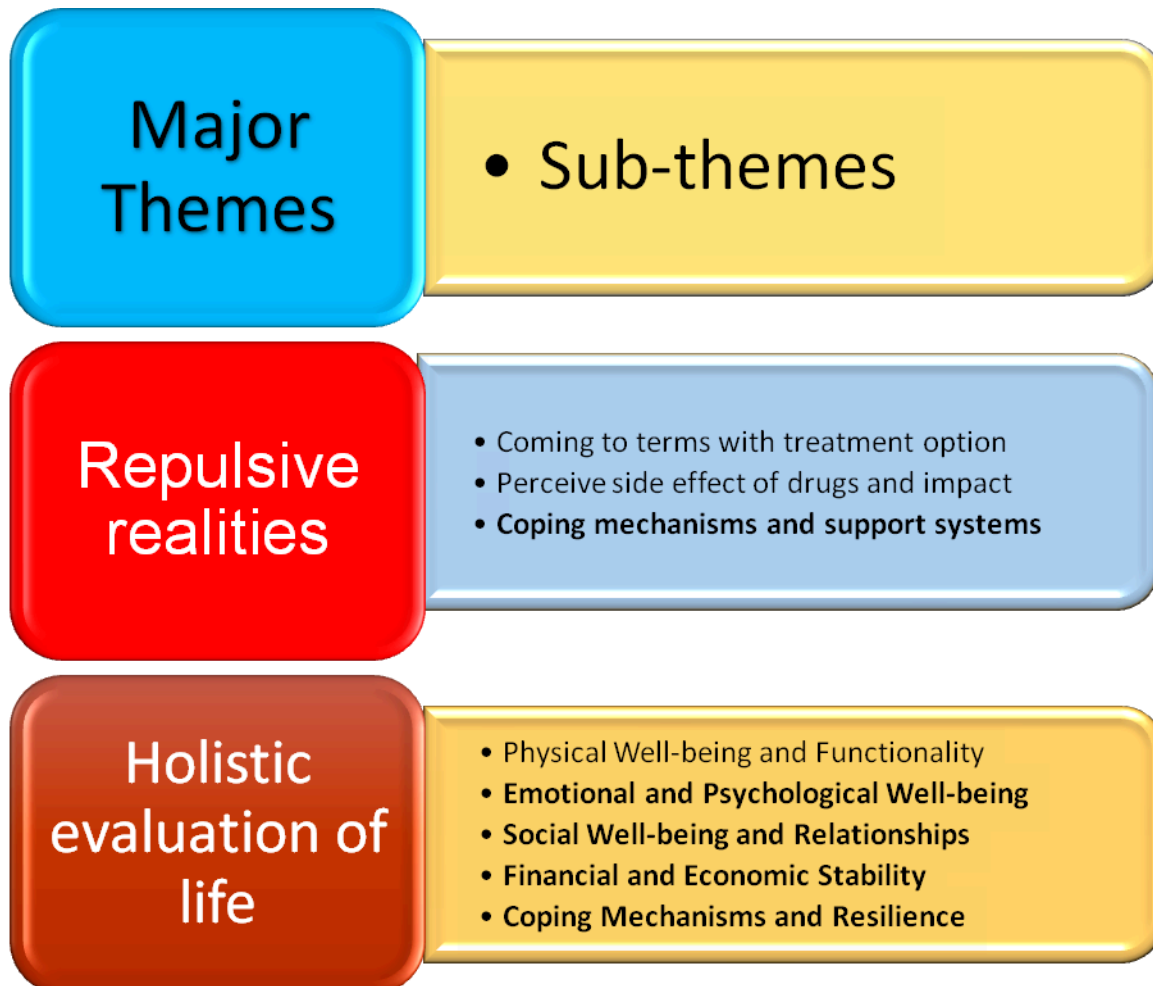


Figure 1: Overview of Themes and Sub-themes

Specific Objective 3: To explore awareness of cytotoxic drug side effects among breast cancer patients in selected health facilities in Southeast Nigeria.

Qualitative Analysis

Theme 1: Repulsive Realities: This theme emerged with three sub-themes, namely: Coming to terms with treatment options; Perceived effect of drugs; and coping mechanisms and support systems. These sub-themes illuminate participants' awareness of treatment options and their associated effects on the general well-being of participants.

Sub-theme 1: Coming to terms with treatment options: Codes such as Understanding of treatment, Knowledge sources, Misconceptions, Healthcare provider role.

This code revealed the transitional pathway from novice regarding treatment options to awareness, including myths and misconceptions associated with treatment options, before full cognisance, as stated:

At first, I thought I would be going to the theatre; then my doctor said the cancer had spread and that they would give me a cancer drug. I thought it was just like other drugs. Changes in my body were noticed after the second time.

Similarly, another added:

At first, I was fine; then, after about four hours, I started vomiting. I wondered what was happening, and it continued until I could not even keep anything down. I was told it was because of the drugs.

Another aspect to consider when learning how side effects actually occur is:

It was my daughter who called my doctor to explain my situation, and he repeatedly told her, "I told Mama what to expect, but really the experience is something else." It was a dawning reality of the side effects.

Similarly, another added:

I heard about it before I started taking the drugs, but the side effect is something else. Sometimes I feel it is like choosing between two devils: death or a treatment option that offers a glimpse of light at the end of the tunnel.

Some patients expressed doubt about the potency of cytotoxic drugs, as stated:

Although the doctor explained a lot about this cancer drug, I am a little sceptical. I have many questions about its effectiveness. It is just that my family feels it is the best option for me. Well, as long as it makes them happy, it is okay.

A study participant expressed fear about the toxic effects of the drug, stating:

Most often, regarding how I feel, I think the drug is more dangerous; others talk about it as a cure for cancer. I don't just believe in it; I look to God Almighty for my healing.

Sub-theme 2: Perceived side effects of drugs and impact: This sub-theme emerged with codes such as: Physical effects, Emotional distress, and Social withdrawal. The codes illuminate participants' experiences with the negative effects of cytotoxic drugs as narrated:

Everything about cancer is traumatic. I never knew things would turn out this way; the diagnosis, treatment, and side effects of treatment are all "bitter pills with hard reality." The treatment seems to place me in the worst stage. I feel too weak to even care for myself sometimes.

Another added:

There are times when I feel so weak and helpless that I have to depend on my family to even take my bath; I become a shadow of my former self, relying on others for everything.

Another confirmed loss of hair is stated:

After the first treatment, I did not feel the adverse reaction that my doctor and nurse had talked about; I felt happy. Only after two weeks did my hair start falling out in clumps. I cried bitterly; I love my hair, and I knew a lot would change about my life from that day.

Another added effect that manifested as mouth sores and diarrhoea is narrated:

I developed sores in my mouth that I never linked to the drug's effects until the doctor explained why. Then diarrhoea followed, which worsened my ill health, and I felt really weak.

Another added effect on peripheral neuropathy is stated:

It was usually tiredness at first, and my family members were always there to support me. However, after a few months, I started experiencing numbness in both my hands; I could hardly hold things.

Another complained about memory loss, stating:

Lately, I have found that I may go into a room to get something, but upon reaching the room, I forget what I went for. It has disturbed me a lot. Although my friend encourages me that there is nothing to worry about, I am aware. My doctor told me it was a side effect of the treatment.

Another affirmed emotional impact is expressed in fear of the unknown and anxiety, as stated:

The first time I was to start this cancer drug, I prayed almost throughout the night. I was fearful, what if something went wrong? What if I reacted to this drug? My husband reacts to many drugs, so I was afraid what if I reacted to these unfamiliar drugs? I wanted my family to be within calling distance.

Another added fear:

You know this unexplained fear is always there whenever I go for this treatment, just in case something goes wrong. I am aware that the drug is for my good, but I usually get too sick after the treatment.

Another patient affirmed that depression and hopelessness are impacts of cytotoxic drugs, as stated:

I wish I had married earlier in my life. When I started losing my hair, I became worried and depressed. I dreaded looking in the mirror and stopped socialising. Cancer and treatment have changed my life.

Another added:

There are days when I feel like giving up. The pain, weakness, fatigue, and isolation are too much. I feel like I am fighting a battle I can't win. In those dark, lonely hours and days, my ray of hope is God.

Sub-theme 3: Coping mechanisms and support systems: This sub-theme emerged with codes such as family support, spiritual beliefs, medical advice, and alternative therapies, and depicts measures adopted by study participants to cope with treatment side effects, as stated:

When weakness became the order of my life, my family was what I depended on. Most often, I encouraged myself to be strong for my family. I knew I was loved, and that meant a lot to me.

Another affirmation of reliance on God was asserted:

God has the final say; He allowed this for a purpose. When it gets gloomy and lonely, I know God is always near. I believe my health will bounce back to normal.

Another affirmed the use of alternative therapies, stating: "I also add herbs to my treatment to reduce the harsh effects of cancer drugs." Another illuminated uncertainty about the effectiveness of herbs, stating: "I take herbal supplements, but I don't know if they really help."

Specific Objective 2: To explore the quality of life of breast cancer patients undergoing treatment with cytotoxic drugs in selected health facilities in Southeast Nigeria.

Theme 1: Holistic evaluation of life: This theme emerged with five sub-themes, namely: Physical Well-being and Functionality; Emotional and Psychological Well-being; Social Well-being and Relationships; Financial and Economic Stability; and Coping Mechanisms and Spirituality. These sub-themes illuminate participants' understanding of the holistic impact of treatment on their daily lives.

Sub-theme 1: Physical Well-being and Functionality: Codes such as fatigue, pain, nausea, hair loss, weight changes and weakness marked this sub-theme and illuminate the general low quality of life associated with treatment side effects, as narrated: "The serious pains I experienced make my life unbearable, keeping me in a state of agony and dependency on others." Another added

You see, after the second treatment, the pain in my body became constant, and on some days, I can't even sleep; it is what really affects me. It makes life unbearable.

A study participant affirmed struggling with household chores, suggesting a moderate quality of life, as stated:

My life has generally been affected. I feel my physical health is no longer the same. I have tried to hold on to the good aspects of life; however, I have been struggling with household chores.

Another affirmed a low quality of life as narrated:

With the third treatment, I think I experience side effects that prevent me from doing what a mother should do. I can't stand for long and feel tired for no reason. I watch my children suffer, and I can't be of help. My life is no longer the same.

A study participant narrated how the loss of hair affects her appearance, stating:

The loss of my hair affected my physical appearance; you know, for a woman, your hair is your beauty. I don't mind losing weight, but being bald as a woman makes me feel really bad.

Another added:

I just thank God I can sit without being supported. Last week, it was so bad with frequent vomiting; I lost my appetite and could hardly get out of bed, the weakness was just too much.

Sub-theme 2: Emotional and Psychological Well-being: This sub-theme emerged with codes such as depression, anxiety, loss of self-esteem, fear of death, and emotional distress, which marked evidence of low quality of life associated with cytotoxic drug treatment, as narrated:

I have been experiencing unusual bouts of fear that stop me in my tracks. I become so carried away that I stop whatever I am doing. Usually, it comes when I am overwhelmed with weakness or when my children make their demands.

Another added:

I just try to do what I can. Most often, the fear of leaving the children motherless is what keeps me going. However, I have this fear of death influencing every decision I make, that it may not be long.

Similarly, another affirmed a low quality of life with psychological well-being, as narrated:

Mma, I am really ashamed of my looks; I feel embarrassed by my appearance. Sometimes I stare at myself for a long time, asking, is this really me? I avoid looking at myself in the mirror.

Another affirmed bout of tears occurred as stated: "Sometimes, I just break down and cry because I feel so helpless."

A few study participants with a moderate quality of life expressed hope in spite of the challenges encountered, as stated:

Occasionally, I am afraid of what the future holds, or if there will even be a future for me. During such periods, I feel depressed, but I see light at the end of the tunnel, and somehow I know I will be victorious over this cancer.

Another added, "I know I will survive. I am hopeful that I will be there for my children; I cannot leave them at such a tender age."

Sub-theme 3: Social Well-being and Relationships: This sub-theme emerged with codes such as social isolation, family support, marital strain, and changes in social interactions, which illuminate the low quality of life in relation to social well-being and relationships, as narrated:

At first, I wanted to be alone, and I had low self-esteem with no hair on my head. I just felt funny, and I withdrew from my friends.

Another added, "Most of my friends have stopped visiting; I feel alone."

Another participant affirmed the marital strain, stating:

I remain grateful to God for my husband; he has really tried to be both a father and a mother at times, very supportive, but I know this has put a strain on our marriage.

For some, they avoid social gatherings, as stated:

At first, due to severe weakness, I tried to avoid social gatherings, but later, with my weight loss and appearance, I found that I not only wanted to be around people but also missed being able to attend social gatherings; I felt left out.

Many study participants still enjoy family support, as stated: "I feel I am alive today because of my family." Similarly, another added, "My family is always by my side, giving me strength."

Sub-theme 4: Financial and Economic Stability: This sub-theme emerged with codes such as cost of treatment, loss of income, dependence on family, and financial stress. They revealed harsh financial and economic instability associated with cytotoxic treatment, which reduces participants' quality of life, as narrated:

Life is generally hard in Nigeria; then you add the cost of cancer drugs to it. I just keep taking one day at a time, and I don't know how long I can afford it.

Another added:

My children are all out of school, which is so painful. Most often, I have to choose between buying medication and feeding my family, then reflect on the consequences of my actions. Would I live long enough to care for them?

Another added family financial support, as stated:

I wonder what I could ever do without my family. I stopped working when the weakness became too much; at first, I was put on sick leave, then I stopped working completely. Ever since, I have relied on my family for everything.

For a few participants, the financial burden of cytotoxic drugs was too much; therefore, they discontinued treatment, as stated: "I had to stop treatment because I can't afford the drugs."

Sub-theme 5: Coping Mechanisms and Resilience: This sub-theme emerged with codes such as faith and spirituality, support groups, and a positive mindset, which marked the adopted coping mechanisms for survival and improving quality of life, as stated:

I am aware that cancer itself signifies death to many, but what God cannot do does not exist. With prayers, I know I will make it; I will be healed and live to care for my children.

Another added:

One thing I came to realise is that this condition brings me nearer to God. I pray a lot, and it brings me a great deal of peace. I no longer worry about the fear of death; it is a settled case.

Another had a positive mindset, as stated:

If others survive this treatment, I will. I took time to visit a friend who was receiving these cancer drugs, and she really encouraged me. So I know I will be fine very soon.

Another identified cancer support group is stated as follows:

I was introduced to a group of women who have cancer; I also met with those who have breast cancer, with whom we share most of our problems. It was really consoling that others understood what I was going through and encouraged me.

Another identified positive thinking, as stated:

I think positively about the situation; I don't allow fear and negative thinking to define me, nor do I allow people's opinions to define me. I look to the brighter side of life.

Another affirmed:

Although life has been challenging, I still find ways to cope with the difficulties it poses. I know this, too, shall pass, and a new chapter will open in my life.

Some participants spoke to friends and family members, as narrated:

My family means a lot to me; when I feel lonely, they understand and gently lift me out of those moods. Their financial and moral support really helps me cope with life's challenges.

DISCUSSION

Awareness of Cytotoxic Drug Side Effects

This study revealed that the respondents were aware of the side effects of cytotoxic drugs. The respondents are aware that they can ask their caregivers for details about the cancer medications they are taking; they recognise the side effects that cancer patients experience while taking these medications. They further agreed that taking cancer medications can make them feel tired a lot of the time or cause them to tire very easily when doing everyday tasks. The qualitative aspect also complements this, as stated:

Everything about cancer is traumatic. I never knew things would turn out this way. The diagnosis, treatment, and side effects of treatment are all "bitter pills with hard reality." The treatment seems to place me in the worst stage. I feel too weak to even care for myself sometimes. Similarly, another added:

There are times when I feel so weak and helpless that I have to depend on my family to even take a bath. I have become a shadow of my former self, relying on others for everything.

Hair loss is a common side effect of taking cancer medications, even though it does not occur in everyone. This was also evident in the qualitative aspect, as stated:

After the first treatment, I did not feel the adverse reaction that my doctor and nurse had talked about; I felt happy. Only after two weeks did my hair start falling out in clumps. I cried bitterly; I love my hair, and I knew a lot would change about my life from that day. Taking cancer medications lowers one's blood count, and it can sometimes make the mouth feel sore and irritated. After taking cancer medications for a while, one may lose their appetite. Some cancer medicines can cause temporary changes to one's skin (e.g. itching,

dryness, patches). Taking cancer medications can make it difficult for one to fall asleep, or one may wake up in the middle of the night and be unable to get back to sleep. While taking cancer medications, many people may temporarily lose interest in sex. One may have stools more frequently than normal (diarrhoea) or may be unable to defecate as before (constipation), a few days after beginning cancer medications. It is important to be aware that the side effects of cancer medications can make one think of life as miserable, that the quality of life is affected by the cancer medications, and that the way one expresses their state of mind due to their health or experiences with the medications refers to the quality of life.

This agreed with the findings of a study carried out by [13] on the side effects of cytotoxic drugs among cancer patients in a Malaysian general hospital, and by [14] in Tanzania. They unearthed that the side effects included nausea and vomiting, which were the most worrisome side effects, indicating that the respondents had knowledge of chemotherapy side effects. Other common and concerning side effects were hair loss and loss of appetite. The study concluded that there was a high prevalence of chemotherapy-related side effects among cancer patients. This was also in consonance with the investigations in Tanzania by [14] on the awareness of cytotoxic drug side effects and attitudes towards chemotherapy, which found that the respondents were aware of the chemotherapy side effects, as the majority had been informed by their doctor. The similarity may be attributed to their level of education, as most of the respondents had a good level of education.

Quality of Life Among Breast Cancer Patients

Cancer is a leading cause of death. People living with cancer experience a variety of symptoms. Quality of life (QOL) is a major concern for patients with terminal cancer. Symptoms affect their QOL. Management of symptoms improves distress and QOL. The quality of life, which was measured using two major themes, namely repulsive realities and holistic evaluation of life, was abridged into physical well-being and functionality, which were reportedly altered; emotional and psychological well-being; social well-being and relationships; financial and economic stability; and coping mechanisms and spirituality. One participant stated:

My children are all out of school, which is so painful. Most often, I have to choose between buying medication and feeding my family, then reflect on the consequences of my actions. Would I live long enough to care for them?

Additionally, another aspect of family financial support is stated as follows:

I wonder what I could ever do without my family. I stopped working when the weakness became too much; at first, I was put on sick leave, then I stopped working completely. Ever since, I have relied on my family for everything.

Similarly, the qualitative aspect affirmed a low quality of life, as stated:

With the third treatment, I think I experienced side effects that prevented me from doing what a mother should do. I can't stand for long and feel tired for no reason. I watch my children suffer, and I can't help them. My life is no longer the same. This has resulted in a poor quality of life.

The above findings disagreed to an extent with the findings of [15], who examined health-related quality of life in breast cancer patients undergoing chemotherapy in South-Eastern Nigeria using a descriptive survey design. The study found that the respondents reported better quality of life in the pre-chemotherapy phase than in the follow-up; however, all the other functional items showed better quality of life among the follow-up group, and it reached statistically significant differences with role functioning ($p = 0.007$) and global health/quality of life ($p = 0.08$).

Another participant affirmed marital strain, stating:

I remain grateful to God for my husband; he has really tried to be both a father and a mother at times, very supportive, but I know this has put a strain on our marriage.

For some, they avoid social gatherings, as stated:

At first, due to severe weakness, I tried to avoid social gatherings, but later, with my weight loss and appearance, I found that I not only wanted to be around people but also missed being able to attend social gatherings; I felt left out.

The above findings agree with those of Zumba (2018) [15], who further found that symptom scales and single-item scales recorded better HRQOL for the follow-up, except for diarrhoea and financial difficulty, which showed better results for the pre-chemotherapy group. Respondents in the follow-up group reported better HRQOL in body image, sexual functioning, arm symptoms, breast symptoms, and a significant statistical mean difference in future perspective ($p < 0.037$). The probable reason for this may be their good knowledge about chemotherapy, which could have influenced how they managed the adverse effects of treatment.

Coping Mechanisms and Resilience: The mechanisms for ameliorating poor quality of life were faith and spirituality, support groups, and a positive mindset. These marked the adopted coping mechanisms for survival and improving quality of life, as stated:

I am aware that cancer itself signifies death to many, but what God cannot do does not exist. With prayers, I know I will make it; I will be healed and live to care for my children.

Another added:

One thing I came to realise is that this condition brings me nearer to God. I pray a lot, and it brings me a great deal of peace. I no longer worry about the fear of death; it is a settled case.

Another had a positive mindset, as stated:

If others survive this treatment, I will. I took time to visit a friend who was receiving these cancer drugs, and she really encouraged me. So I know I will be fine very soon.

Kershaw et al. demonstrated that both constructive and destructive strategies for coping with cancer significantly affected quality of life (QoL). Their findings suggest a stronger impact of the chosen coping strategy on the psychological aspects of QoL than on the physical ones. Notably, negative strategies have a strong impact on patients' lives and considerably impair their daily functioning, while a positive approach to coping with cancer does not improve QoL as strongly. Sexuality is a crucial factor in QoL, as well as a fundamental bio-socio-psychological contributor to the development of personality, temperament, and enjoyable life experiences; a positive experience of sexuality facilitates coping with cancer, which is why this aspect is relevant to clinicians. Our findings are in consonance with those of Mohammadipour and Pidad (2021), who revealed that task-focused coping style and emotion-focused coping strategy were significant predictors of the patients' quality of life. The quality of life of women with early-stage breast cancer may be improved by helping them to adopt more task-focused coping strategies and an internal locus of control.

Conclusion

Based on the foregoing, it can be concluded that the awareness of chemotherapy among study participants was transitional, in that their awareness spanned from a naive understanding of treatment options to an awareness that included myths and misconceptions associated with these options before achieving full cognisance.

Additionally, there was a general low quality of life associated with treatment side effects, as physical well-being, functionality, emotional and psychological well-being had been distorted, along with social well-being, relationships, and financial and economic stability.

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