Breast cancer and Chemotherapy Resilience: Exploring the experiences of female survivors in Ghana

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Abstract

Background: Chemotherapy is the most common treatment option for breast cancer in Ghana. Chemotherapy brings about unpleasant and traumatic experiences due to the effects of drugs on patients. Despite contexts specific variations, recent literature show improvement in breast cancer survival rates globally.

Methods: This study aimed to explore factors that influenced resilience among women who completed chemotherapy for breast cancer in the Greater Accra Metropolis of Ghana. A qualitative exploratory descriptive design was adopted to study fifteen breast cancer survivors. A purposive sampling technique was used to select the participants. Individual in-depth interviews were conducted in English using a semi-structured interview guide. Data collection and analysis occurred concurrently. All interviews were audio-recorded with consent from the participants. Using a thematic and content analysis approach, all interviews were transcribed verbatim, coded and themes and subthemes generated.

Results: Two major themes and eight subthemes were generated. Thus, 1. *The Burden associated with breast cancer diagnosis and treatment*; with subthemes; *Physical, Psychological, Social, Financial burdens*. 2. *Personal traits*; and the subthemes; *Hope, Optimism, Self-esteem, Confidence*.

Conclusions: The study concluded that chemotherapy is associated with biopsychosocial pain and economic burden. In the absence of organized support systems, surviving breast cancer treatment is influenced by individuals' personality and emotional orientation to the disease.

Background To The Study

Breast Cancer (BC) is a major public health concern across the world and has attracted the attention of policymakers and various health care professionals [1]. According to the global disease profile, breast cancer is the second most regular diagnosed tumor and the second malignancy death among women with an estimated 1.67 million new cases diagnosed in 2019 [2, 3]. In the United States, apart from skin cancers, BC is the most common cancer occurring in women and is the second leading cause of cancer deaths with about 39,520 women dying yearly [4]. In Sub-Saharan Africa, and Nigeria in particular, the incidence rate for all invasive BC from the Ibadan Population-Based Cancer Registry (IBCR) was 66.4 per 100,000 men and 130.6 per 100,000 women [5]. Although there is none such cancer registry in Ghana, evidence reveals that breast cancer is the single most dominant cause of tumor deaths among women [6]. Mensah et al further explained that breast cancer was responsible for 75% of a probable breast lump in Ghanaian women with about 85.2% having upper ranked carcinomas [6]. Similarly, Agbeko researched the incidence of breast cancer cases in Ghana and found that BC accounted for 33.9% of female attendance to the second largest teaching hospital, Korle-Bu Teaching Hospital in Africa in 2013 [7].

In Ghana, the majority of BC patients are treated with chemotherapy [8]. According to Qi et al, chemotherapy is a cancer treatment modality whereby drugs are used to kill the cancer cells and can be given intravenously (infused into a vein) or by oral medications [9]. The medication goes through the

circulation system of the individual to reach the malignancy cells in many parts of the body [10]. Chemotherapy can be given as a single therapy or a combination of therapy. Some of the chemotherapy drugs used for breast cancer treatments in Ghana include; Paclitaxel, Capecitabine, Cisplatin, Liposomal, and Epirubicin [11]. The wide use of these chemotherapy drugs bring about unpleasant life experiences from adverse effects of the drugs, often traumatic for the patient and affects their quality of life [12, 13]. The unpleasant side effects and harsh experiences from the medications often lead to treatment attrition [14]. Similarly, evidence shows that the full dose of chemotherapy is associated with marked deterioration of the individual's physical capacity with some women suffering detrimental musculoskeletal side-effects, cardiovascular sub-normality, psychological distress, and increased levels of pain [14, 15]. These consequently lead to most women being unable to complete the chemotherapy treatment regime.

Moreover, treatment-induced mortality resulting from chemotherapy-cardiotoxicity remains a major concern [16]. For instance, a study in Denmark reported that out of 333 cancer patients who were being monitored after chemotherapy, 194 of the patients died from chemotherapy toxicity [17]. And in the United Kingdom, McGowan et al. reported that chemotherapy cardiotoxicity has led to an increase in cancer morbidity and mortality in London [18]. Also, a study conducted in Romania showed that cardiotoxicity resulting from chemotherapy remained the primary cause of cancer mortality in Bucharest [19]. Therefore, surviving the adverse effects of chemotherapy is of major concern to both health professionals, individual clients, and families [20].

Effectively, functioning and wellbeing following a life-threatening event such as receiving chemotherapy treatment can be a challenging task for most women diagnosed with breast cancer. The patients' ability to build resilience to emotional and physical pains of cancer and its' treatment is identified as one of the key assets to surviving the disease and improving quality of life [21]. Resilience factor exists for every individual, however, across the life course, the experience of resilience will vary [22] and those that can cope and adapt during setbacks and adversities are labeled resilient, while those that are not able to adapt to the challenging life events fade off, and succumb to adversities [23]. In Ghana little is known about factors that influence resilience among BC women who received chemotherapy for breast cancer.

Methods

Research Design

A qualitative exploratory descriptive design was adopted to explore the factors that influence resilience in women who completed chemotherapy for breast cancer in the Accra metropolis. According to Creswell and colleagues, the qualitative exploratory descriptive design enables a researcher to explore how people understand and describe a human phenomenon [24].

Research Setting

This study was conducted at the largest Teaching Hospital in Accra, Ghana. The Greater Accra Region is the most urbanized region and the capital city of Ghana. The Teaching Hospital is one of the healthcare facilities with many specialist units including oncology and radiotherapy departments [25]. Women who

completed chemotherapy three months before the data collection phase of this study were purposively sampled and recruited from the oncology and radiotherapy units for the study.

Data Collection And Procedure

A total of fifteen women participated in the study. A semi-structured interview guide was used during individual face-to-face interviews with participants. The participants were interviewed at different locations in the hospital on a suitable day and time convenient to them. The procedures of the study were explained to participants and based on that participants gave informed consent before the commencement of the interviews. All interviews were conducted in English and audio recorded with participants' permission. Each interview lasted between 45–60 minutes. Demographic information of participants was collected at the beginning of each interview. Subsequent questions focused on when and how participants were diagnosed with breast cancer. Questions relating to types of diagnostic investigations, treatment types, and duration were explored. Probing questions were used to further explore key thematic questions captured in the interview guide. Data collection and analysis occurred concurrently. Where clarifications were needed, member checking was carried out with the participants. This allowed participants to validate key findings.

Data Analysis

The data analysis adopted a thematic and content analysis approach. Transcripts produced from the recorded interviews were coded independently by the study authors. A two-stage level of coding; thus, open and axial coding were conducted to identify initial and focused codes respectively. Through a series of cyclical coding and grouping of codes with similar dimensions and elements, themes and subthemes were identified. Emerging themes and subthemes were discussed at research team meetings until a consensus was reached. Field notes taken during data collection and memos recorded were additional valuable materials for data analysis.

Trustworthiness

The techniques employed to safeguard the trustworthiness of the study included one interviewer conducting all the interviews using the same interview guide. Also, detailed field notes and audio recorded interviews provided a verbatim response from the participants. Simultaneous data analysis ensured that member checking with some participants was done to validate the findings. Furthermore, all authors conducted independent coding of the data and inter coding validity was ensured at frequent research meetings where emerging codes were discussed.

Results

Demographic characteristics of Participant.

Fifteen women who had breast cancer and had received chemotherapy were involved in the study. These women were aged between 38 and 78 years. Four (4) of the women were in their late thirties, seven (7)

were in their early forties, two (2) in their late fifties, one (1) in her early sixties, and one (1) in her late seventies. Their educational backgrounds were secondary (2), vocational (4), and tertiary (6). Ten of the women were Christians; four were Muslims and two Traditionalists. The women had been married for a period of 6 and 47 years.

Themes And Subthemes

Burden Associated with Breast Cancer Diagnosis and Treatment

All participants were asked to share their experiences following breast cancer treatment. The major theme that emerged from participants sharing their experiences was the burden associated with breast cancer diagnosis and treatment. The subthemes were; physical burden, social burden, psychological burden, financial burden.

Physical Burden

Mostly, the entire disease process was described as fatigue. According to the participants, they frequently experienced fatigue going through the diagnostic investigations, treatments, and having to attend follow-up clinics after completion of chemo. At the time of data collection, almost all the fifteen women reported that they still experience fatigue which could not enable them to stand for a long duration.

I was frequently fatigued and become weak quickly, I couldn't stand for long (P7).

The majority of the participants reported changes in their physical health, especially, changes in their complexion which they were all worried about. The physical changes reported in this study included darkened faces, palms, feet, and skin which affected them negatively.

My face, hands, and palm color changed completely, you needed to see it. It became dark, completely dark (clench fist and eyes) (P3).

Other participants expressed worries about the loss of hair. They revealed that their hair gets removed each time they combed it. Some reported that the situation was serious to the extent that they could find lots of hairs on their bed upon waking up from sleep.

...when I take a comb to comb my hair, then my hair will start falling off. Let me say about two weeks after chemo.... if you comb it or you don't comb it, if you wake up from sleep you will see your hair on the bed (P7).

Social Burden

According to participants, it was a burden to keep up with their social health. The processes of treatment and the effects of chemo drugs on the body were some of the reasons most participants mentioned as challenging. For example, some participants indicated that they withdrew from social activities and functions because they became sick as a result of the chemotherapy.

I like to have fun, but during chemo, every part of my system was affected by the drug. I was very sick and it took me time to recover. Due to the changes in my health, I couldn't make good use of my holidays. I was always indoors till my body started picking up (P6).

It was also revealed that at some critical stage of treatment, patients were not allowed to receive visitors. The participants expressed that they were protected from being infected as their immune system was compromised. Some also speculated that the toxic nature of chemo drugs was harmful to their younger children, hence, they isolated themselves from their families.

I had so many difficult times but to me, the most difficult time was when I was not able to see my son, at the time. No child was allowed to visit the chemo room because of the infection risk. (P1).

After completion of chemotherapy, most of the women said they continue to keep away from social gatherings because the side effects of the drugs were still obvious in their physical look. Almost all the participants believed that they have not recovered fully.

Financial Burden

Financial challenges were one burden that persisted through all the interviews. All the participants indicated that their financial situation deteriorated because they were unable to work full time.

Nothing worried me so much than the time we wasted at the hospital and due to that, you suffer financial strain because you are unable to work full-time. More of our time was spent in the hospital (P6).

The high cost of diagnostic investigations and medications was reported. According to most participants, they did several expensive tests prior to the beginning of the chemo. Additionally, the cost of chemo drugs and the quantity they bought to complete treatment depleted their life savings.

It all started as a joke but as each day passed by then I realized how

I was losing financially to lab tests (P4).

....people say money is nothing but I can tell you when you are suffering from cancer money is something because cancer drugs are expensive and you are to buy it not once, now all my savings are gone because (P12).

Others narrated how delays at the hospital affected them financially because they spent working hours waiting at the hospital.

Financially, I lost a lot. Can you imagine, I regularly sat waiting for hours for my turn at the clinic for an appointment? Due to the delays, I end up spending my whole time here (P7).

Psychological Burden

Psychologically, most of the breast cancer survivors in this study reported feelings of uncertainty. In general, their uncertainties were associated with the fear of recurrence of their illness, knowing that, for many, the treatment offered no guarantees of an absolute cure for their conditions. This fear was evident in all of the participants interviewed.

...you know!! I'm a nurse but I stop thinking like a professional and just became a scared patient because I was not certain initially (P3).

Psychologically, I struggle with the fear of reoccurrence of cancer or dying from cancer. Every day, I'm in fear of overcoming the hurdles that come with chemotherapy (P4).

One participant narrated that the diagnosis of cancer got her depressed and that the feeling of depression continued until her second dose of chemotherapy.

First of all, I was shocked and depressed starting from the day I was told I had breast cancer up to my second dose of chemotherapy (P5).

Some other participants said they became sad and thought nothing good was going to come out of the treatment. Suicidal tendencies were reported.

You don't know what it meant at the time...I can't forget these experiences...I became sad and felt all was lost because of the negative experiences I had (shaking of the head) ... to the extent that I considered committing suicide (P7).

Personal Traits

Personal traits emerged from the study as key factors that influence the resilience of women who completed chemotherapy for breast cancer. The personal traits were individual characteristics, patterns of thoughts, feelings, and behaviors that influenced their sustenance on the chemo treatment. Four (4) sub-themes were identified as subthemes. These include; *Hope, Optimism, Self-esteem, and Confidence*.

Hope

The concept of hope was perceived as positive expectations from the medical care system. The participants expressed hope and high expectations in the health care staff, particularly the doctors and nurses. Participants reported kind gestures and assurance from staff which kept their hopes high.

At some point, I needed someone to talk to...Guess what? A team of nurses and doctors and some other people came to me. They spoke with me for an hour that opened the gate for my recovery, it gave me hope...I mean hope (P11).

Many of the participants also believed in themselves for recovery. They expressed the belief that they are winners and can persevere throughout the treatment.

I took it easy and I have to because all I have at that time was hope. Personally, I take everything in my life easy although I was anxious initially, I later told myself that if I am worried, I can't change anything and so, I have to just hope for the better (P6).

Mostly, other participants sourced hopes from breast cancer survivors who reassured them and wished them a speedy recovery. The personal testimonies of the survivors were sources of hope, which took away participants' fears.

There was this organization called Breast Cancer Survivors Association, whose members came to give me and my family hope by offering us more information about breast cancer and how I can contribute to my survival, after all, they were living testimonies for us (P5).

Optimism

Some of the participants indicated that they looked at the positive side of their conditions, thus, to focus on what they could do for themselves and avoiding negative thoughts and self-destruction. They reported that being optimistic about how to keep healthy rather than on the negative circumstances of life was much helpful.

I was inclined to look on the more positive side of my condition and to expect the greatest result from treatment since many women who came to the hospital had recovered, so I tuned my mind that surely I can recover (P8).

Some participants revealed how optimism helped them to avoid people with negative misconceptions about breast cancer.

.... you know the misconceptions people have about cancer. With my background as a health worker, I was quite certain about the future that I will be well, after all, we have discharged many people from hospital with a complete recovery from breast cancer so I was going to be discharged (P12).

Self-esteem

The side effects of chemotherapy on the human body were signs of great concern to all the participants of this study. On repeated instances, most participants made references to how they experienced body disfigurements. However, the majority of them expressed positive self-esteem as a key factor that influenced their survival from breast cancer and chemotherapy effects.

I find it helpful to spend time switching on my phone and take a selfie and forward it to my loved ones. Actually, I have a strong feeling that I am fine, I feel great about my look. I'm very positive that I still look beautiful (P3).

The act of setting new smaller goals in the face of challenges helped participants to cope and build on their resilience. One participant indicated that the ability to achieve small tasks such as to switch on

mobile phones was enough motivation. Other participants set new goals for themselves and tune their minds on happy moments in order to overcome the effects of the chemotherapy and the disease burden.

The secret has been that this breast cancer is just one of many problems in life, so just this specific situation can't stop me from going on with life, so I set new small goals for myself when I face the challenges (P1).

Confidence

Most of the participants revealed that they were self-reliant, confident, and able to manage their symptoms. The duration of undertaking chemotherapy was perceived as long and tiring. For the long period of undergoing chemo, self-care was perceived as the act of bravery and confidence.

I needed confidence because to take chemo for a whole year (long laugh) my son, you need confidence, yes, else you can't finish the chemo, you will stop because of its effects (P3).

Additionally, exercising confidence in doctors and nurses during chemotherapy was a factor in surviving the process. According to some of the participants, surviving the first chemotherapy dose increases their confidence level. The competency and the skills of the clinical staff boosted patients' morale.

They were of the conviction that the competence of the health team will help them, most importantly after their

After receiving my first dose of chemo, I was of the conviction that I needed confidence in myself and in the health care team to be able to stay through. My whole system changed and I could feel am no more the same and at this point. Then, all I need was to be sure that the nurses and doctors knew what they were about (P12).

Discussion

The results from this study identified that chemotherapy is the major treatment option for women diagnosed with breast cancer in Ghana. Literature report increased self-reported physical and emotional stress associated with chemotherapy [26–29], and age is one key demographic factor identified to contribute to how patients respond to chemotherapy. Pearce et al reported lower chemotherapy side effect rates in older women [30]. However, the majority of the women (eleven out of fifteen) in this study were below age 50, which could account for the widely reported physical stress reported in this study. The physical stress such as fatigue, hair loss, nausea, and vomiting as reported in this study is congruent with findings in the literature [30–32]. Tao, Visvanathan, and Wolff observed that the severity of treatment side effects is dependent on the stage of the breast cancer disease development [33]. Generally, it is reported that early detection and beginning treatment at the early stage of breast cancer is associated with reduced side effects. This suggests that patients diagnosed with BC must be well assessed for disease stage before decisions on treatment options.

This study also identified the financial burden associated with breast cancer diagnosis and treatment. This agrees with the findings of Gallagher [13] and Schwartz et al. [34]. For instance, Gallagher reported that survivors of leukaemia linked their financial burdens to the expensive and prolonged nature of their chemotherapy treatment and laboratory investigations [13]. Many other studies have reported financial consequences on cancer survivors [35–37]. In their review of studies mainly from high-income countries, Azzani and colleagues observed that patients and families from low-income households experienced financial difficulties during cancer care [36]. In the context of Ghana where more than half of the population are considered poor, it was not surprising that almost all the participants in this study reported the financial burden associated with their cancer diagnosis and treatment.

Kale and Carroll further reported that financial challenges account for the poor quality of life observed among cancer patients [35]. The findings from this study revealed that chemotherapy possess challenges to patients' physical, psychological, and social health. These dimensions of health are attributes of health-related quality of life. This presupposes that the adverse reactions to chemotherapy may be exacerbated by other external factors such as the individuals' finances. Cancer care is known to be associated with the financial burden, increased poverty [35], emotional mood depression, and persistent worrying. Multiple approaches such as restructuring cost-sharing and insurance designs; improved cost transparency; assessment of patients' risks for financial hardship and eliminating low-value prescribing practices; are some suggested ways to address the financial burdens in cancer treatment [37].

Irrespective of the lack of support system, survivors of breast cancer in this study said they kept hopes high with increased confidence in the clinical staff to survive cancer care burden and chemotherapy adverse effects. This is consistent with previous studies [38–40]. For instance, Jacobsen et al reported that professionals communicating therapeutically serves as reassuring and raises patients' hopes [41]. Also, a study by Werner and Steihaug reported that doctors who succeed in conveying and maintaining hope for patients through a good working coalition enable their patients to recover quickly [42]. Furthermore, Lewis Jr. reported that African-American cancer patients used faith in God as a coping strategy to manage their disease burden and the side effects of chemotherapy [43]. All participants in this study expressed elements of faith, self-confidence, and faith in the health professionals who cared for them. Lam et al. identified that self-motivation and encouragement from families and significant others contribute to the survival rate among cancer survivors [44]. Effectively, health professionals must assess BC patients for individual characteristics such as staying positive, optimistic, and hopeful to increase their survival rates [45–47].

Limitations

Although the results from the study identified that, personal traits influenced resilience among women who completed chemotherapy for breast cancer, the study cannot be generalized because the study was conducted in one out of 16 administrative regions of Ghana. Also, the sample size was too small for any generalization. We recommend that a quantitative version of this study be conducted to evaluate how personality traits impact the level of resilience in care patients receiving care.

Conclusion

The burdens of BC care as experienced in this study were described as physical, social, financial, and psychological burdens. The study also identified that an individual's innate characteristics such as hope, optimism, self-esteem, and confidence foster resilience and promote survival among BC patients who completed chemotherapy for breast cancer. We recommend that clinicians should implement appropriate interventions such as good interpersonal relations, empathy, and competence so as to enable patients to identify their personal strengths in order to influence positive health outcomes.

Declarations

Ethics for Approval and consent to participate

The study gained ethical approval from the Noguchi Memorial Institute for Medical Research-Institutional Review Board, University of Ghana (NMIMR-IRB CPN017/17-18). Also, informed consent was obtained from all research participants. All methods were carried out in accordance with the relevant guidelines and regulations.

Consent for publication

Not applicable

Availability of data and material

The datasets analyzed during the current study are available from the corresponding author on reasonable request.

Conflict of Interest

The authors declare no conflict of interest.

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Authors' contributions

All the authors conceived the study. SG collected the data, and all authors analyzed it. SG developed the initial first draft of the manuscript for LAO and LA review. All three authors read and approved the final manuscript.

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Table

Table 1: Themes, Subthemes and Codes

Themes	Subthemes	Codes
Burden associated with breast cancer diagnosis and treatment	Physical burden	Fatigue, darkened face, palm, feet and skin and loss of hair
	Social burden	Withdrawal and isolation from social gatherings
	Psychological burden	Fear of disease reoccurrence, depression and sadness
	Financial burden	Prolong hours at hospital, inability to work full time
Personal traits	Hope	Trust in medical staff, believing in self, and peer survivors influence
	Optimism	Having a positive view about the disease, avoiding people with misconception about breast cancer
	Self-esteem	Self-motivation, setting new goals, tuning minds on happy moment
	Confidence	Self-reliant, self-confidence and confidence in medical system