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Breast Cancer Survivors' Experiences of Living with Treatment Choices of Breast Cancer: A Qualitative Study

Junie Jun-ying Li[1], Wing-sang Siu[1], Miranda Man-ying Wong[#] and Lisa Pau-le Low[#]

[1]School of Health Sciences, Saint Francis University, Hong Kong
[#]Advisor

ABSTRACT

Introduction

Breast cancer is a prevalent and burdensome disease, with high incidence and mortality rates globally. Although there is a high incidence rate of breast cancer, there are also a high number of survivors who face the challenges associated with the treatment such as side-effects, fear of recurrence, body image issues, and sexual dysfunction. This study explores the lives and care of breast cancer survivors' after receiving treatment.

Aim of Study

To examine how breast cancer survivors' treatment choices affected how they coped and resumed normal life after breast cancer treatment.

Methods

A qualitative descriptive research design was used to examine breast cancer survivors' experiences of how they faced the challenges in their daily life after treatments. Purposive sampling was used to recruit three participants who had received different treatments. Semi-structured interviews and inductive thematic analysis were used.

Results

Our study illustrated the impacts of different treatments and major challenges for breast cancer survivors. The data reflected their feelings and attitudes after treatments, support received to cope with the difficulties and return to normal life.

Conclusion

Breast cancer survivors who had received different treatments faced challenges when resuming to normal life. This exploratory study highlighted that greater attention should be given to the treatment-related information for building professional-patient relationships and supporting breast cancer women in making treatment choices.

Introduction

Breast cancer is the most common cancer among women worldwide, with a high incidence and mortality rate; and poses a burden on the quality of life of women. Breast cancer is a prevalent malignant disease in which abnormal cells in the breast grow and divide in an uncontrolled way. The National Cancer Institute (NCI, 2024a) defined an individual as a cancer survivor from the time of diagnosis until the end of life. This period involves how the initial diagnosis of cancer affects the physical, mental, emotional, social, and financial aspects of a person, and continues through treatment and beyond (NCI, 2024b). The World Health Organization (WHO, 2023) reported the number of diagnosed cases and cancer-causing deaths in 2020 were 2.3 million and 685,000, respectively. Although developed countries have higher incidence and mortality rates of breast cancer compared to developing countries such as Brazil, China and India (Bray et al., 2018), there are more advances in biomedical technology and options of treatment for breast cancer clients. According to the Hong Kong (HK) Cancer Registry (2024), breast cancer was the first leading cancer in female with 62.8 % increase since 2011 for the number of invasive female breast cancer. It is the most common cancer among women with 5,565 cases newly diagnosed and 791 cancer deaths in 2021. HK has one of the highest incidence rates of breast cancer in the world, and its age-standardized mortality rate of breast cancer is around 9 per 100,000 women when compared to 16 in Western Asia (HK Breast Cancer Foundation, 2024). Indeed, advanced early detection and multimodality therapy of breast cancer can increase the number of survivors (Jakobsen et al., 2017). Even though HK has a high incidence rate of breast cancer, it also has a high number of breast cancer survivors. Among those diagnosed, it is found that 84% of diagnosed patients would survive after five years or more (HK Cancer Registry, 2024). In fact, there are a variety of treatments for breast cancer patients, mainly surgery, radiotherapy and chemotherapy. Despite receiving the therapies and having survived the disease, the patients still need to face different difficulties and discomforts when recovering and adapting to the changes in treatments. Many survivors are known to deal with the side-effects of treatments, namely instant pain, fatigue and insomnia (Bovbjerg et al., 2019; Fadhlaoui et al., 2021). Furthermore, breast cancer survivors face obstacles to resume normal life, such as fear of recurrence, disturbance of body image and sexual dysfunction after a mastectomy (Baumgart et al., 2013; Cohee et al., 2017; Türk & Yilmaz, 2018). These disruptive sources of distress can adversely affect survivorship and quality of life of survivors (Syrowatka et al., 2017). Despite the availability of different treatments such as surgery and chemotherapy to prolong survival in cancer, it is essential to acknowledge the physical, psychological and social difficulties that women face after receiving the treatments. This study was conducted to contribute to the limited qualitative studies on Chinese breast cancer survivors' lives after receiving treatments and the care they had received.

Literature Review

Search Strategy

PubMed and CINAHL databases were searched using the following keywords 'breast cancer survivors', 'treatment' and 'experience'. The language of the article was English. The timeframe of the literature review was from 2012 to 2022. The inclusion criteria of the articles were published within 10 years, written in English, breast cancer survivors, experience after treatments, recovery from breast cancer, and adapt to the changes in daily life after treatments. The exclusion criteria included duplicated records, with no free full-text, involving other cancers, investigating interventions for treating treatment-induced side-effect, not about experience after recovery, non-survivors of breast cancer, and cultural difference induced issues. The Prisma flowchart (Figure 1) shows the process of screening the literature retrieved. Table 1 summarizes the 14 studies included in the literature review.

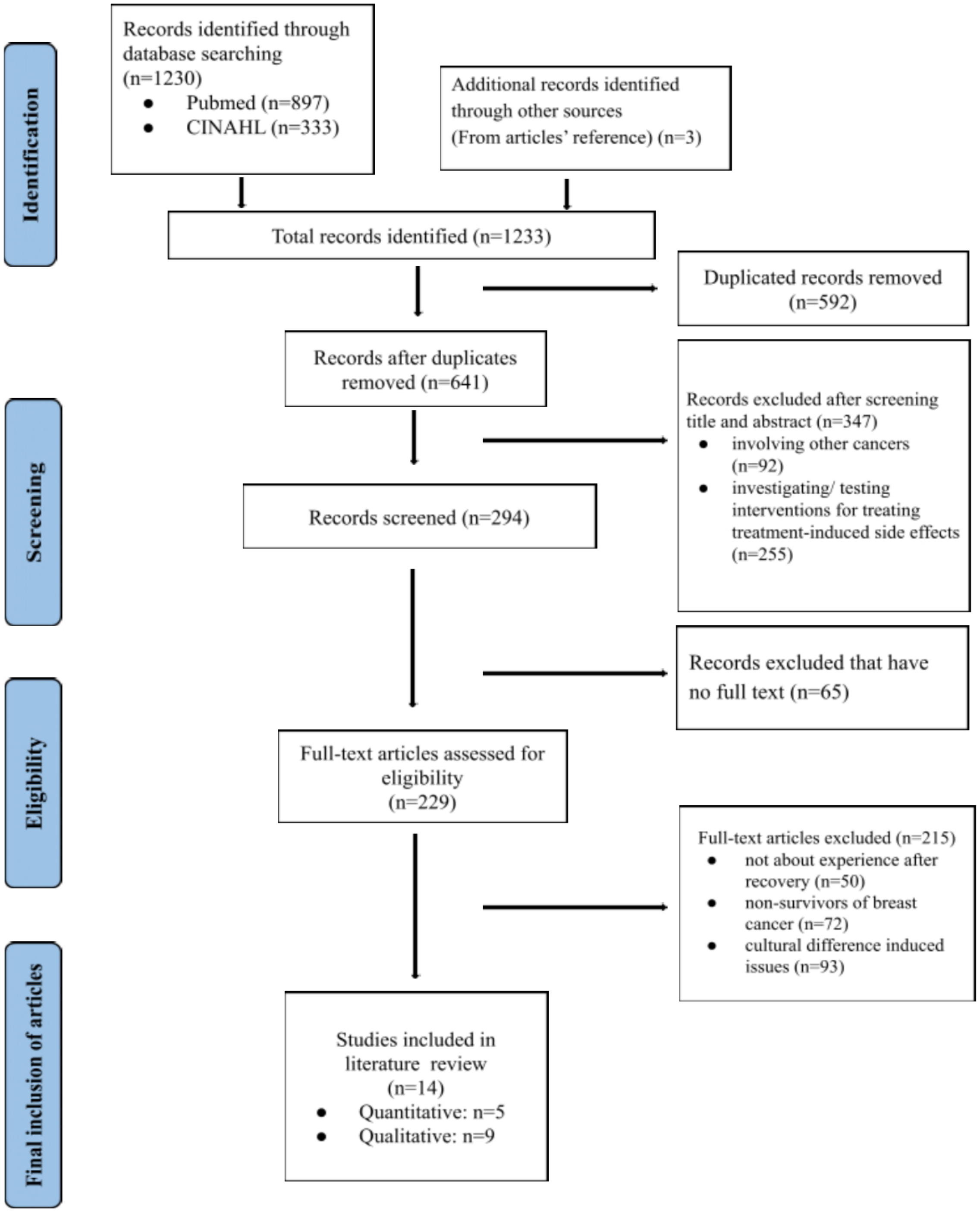

Figure 1. Prisma Flowchart

Table 1. Literature included in the review

Authors (Year)	Title	Design	Participants	Results
Admoun, & Mayrovitz (2021)	Choosing mastectomy vs. lumpectomy-with-radiation: Experiences of breast cancer survivors	Quantitative online survey	• Mastectomy: 978 patients • Lumpectomy: 628 patients • Age: 26-88 years	● Mastectomy: almost all had at least one complication, e.g. uneven breast, chest wall tenderness, etc. ● Lumpectomy: almost all had radiation side-effects. ● Pain duration: lumpectomy > mastectomy. ● Overall satisfactory level: mastectomy slightly higher than lumpectomy.
Aggeli et al. (2021)	Posttreatment anxiety, depression, sleep disorders, and associated factors in women who survive breast cancer	Quantitative descriptive, cross-sectional study	• 170 breast cancer survivors • Age 18 or above	● Insomnia: reported by up to 50% of patients. ● Anxiety is more common than depression. ● Longer treatment led to lower level of depression.
Bao et al. (2018)	Living with chronic pain: Perceptions of breast cancer survivors	Quantitative cross-sectional survey	• 1,280 post-menopausal breast cancer survivors	● 75% participants had at least one type of treatment-related pain, e.g., aromatase inhibitors-induced musculoskeletal pain, surgery or radiation site.
Bjerkeset et al. (2020)	Symptom cluster of pain, fatigue, and psychological distress in breast cancer survivors: Prevalence and characteristics	Quantitative nationwide secondary analysis of data from a cross-sectional study	• 834 breast cancer survivors	● Symptom cluster: patients had more than one side- effect of cancer treatment, including pain, psychological distress and fatigue. ● <25% participants experienced all symptoms, with premenstrual women may have higher risk. ● Commonest symptom: pain; followed by fatigue; then psychological distress,
Cheng et al. (2015)	Negative and positive life changes following treatment completion:	Qualitative study	• 29 breast cancer survivors selected from the attendees of a	● Negative life changes: fear of recurrence, symptom experience, poor body image, altered sexuality and intimacy, and financial burden,

	Chinese breast cancer survivors' perspectives		local cancer self-help organization in China	• Positive life changes: new life perspective, personal growth, and enhanced relationships with family,
Fadhlaoui et al. (2021)	The post-treatment return-to-work transition experience for breast cancer survivors under 50 years of age	Exploratory descriptive qualitative research	• 8 breast cancer survivors aged 37-48 years	• Psychological and social changes associated with breast cancer, • Learning how to live with these changes, e.g., positive thinking. • Fear of recurrence and a lack of understanding from friends and family.
Henderson et al. (2019)	'A new normal with chemobrain': Experiences of the impact of chemotherapy-related cognitive deficits in long-term breast cancer survivors	Qualitative semi-structured interview	• 12 women who underwent chemotherapy with different nationalities • Age: 29-68 years • Length of post-treatment time: 1-14 years	• Feeling slower in processing information. • Spending greater effort in handling daily tasks. • Being ineffective in the workplace due to poorer memory but varied between individuals. • Having difficulties in critical thinking, creative thinking, information assimilation and connection.
Jakobsen et al. (2017)	Everyday life in breast cancer survivors experiencing challenges: A qualitative study	Qualitative study	• 11 women aged 48-74 recruited from a follow-up study of breast cancer patients	• Showing active support to the client and their relatives; and a balance between occupations at home and at work were important life challenges to handle every day.
Keesing et al. (2016)	A dyadic approach to understanding the impact of breast cancer on relationships between partners during early survivorship	Qualitative study	• 8 breast cancer survivors with 6 months to 5 years following cessation of treatment • 8 partners • Age: 45-55 years	• Importance of early survivorship period for both women and their partners. • Limited options available to meet their shared needs and preferences for support.
Keesing et al. (2018)	The implications of women's activity	Qualitative study	• 18 breast cancer survivors with	• Limitations on resuming functional activities and important life roles during early survivorship due to ongoing symptoms.

	limitations and role disruptions during breast cancer survivorship		treatment for breast cancer was completed between 6 months and 5 years previously • 8 partners • Age: 34-69 years	• Suggestion of support: rehabilitation following cessation of treatment to facilitate access to multi-disciplinary services.
Lindberg et al. (2015)	Breast cancer survivors' recollection of their illness and therapy seven years after enrolment into a randomised controlled clinical trial	Quantitative cross-sectional study	• 133 breast cancer survivors	• Psychological distress and chemotherapy-related side-effects by a substantial part of survivors. • Method to increase psychosocial and medical support: regular assessment of patients' quality of life needed during medical follow-up to identify specific complaints, including specific recommendations to the physician.
Peddie et al. (2021)	The impact of medication side effects on adherence and persistence to hormone therapy in breast cancer survivors: A qualitative systematic review and thematic synthesis	Qualitative systematic review and thematic synthesis	• 16 eligible papers	• Most common psychological side-effects: depression, insomnia or sleep disturbance, suicidal feelings, mood swings, impaired memory and concentration, anxiety and anger. • 2 studies discussed side-effects generally, and did not specify which side-effects were experienced by participants.
Van Londen et al. (2014)	Perspectives of postmenopausal breast cancer survivors on adjuvant endocrine therapy-related symptoms	Qualitative semi-structured interview in focus groups	• 14 female breast cancer survivors who had adjuvant endocrine therapy-related symptoms • Age: over 50 years	• Not a choice but a must to have the treatment even though they knew the side-effects. • Being shocked by the symptoms that could affect different bodily function and could not handle them and their negative impacts. • Being lonely and helpless because no one understood their frustration. • Triggered some emotional problems.
Williams, & Jeanetta (2015)	Lived experiences of breast cancer survivors	Qualitative study	• 15 women breast cancer survivors	• Acknowledgement of frustration with their diagnosis and body changes.

	after diagnosis, treatment and beyond: Qualitative study		• Age: 35-62 years	• Support received from family and friends for helping them to cope through their treatment. • Being abandoned once the treatment phase was over and uncertain what survivor hood meant to them. • Coping with the diagnosis and treatment of breast cancer was a very stressful journey for cancer survivors.

Different Types of Treatments

There are various treatments for people diagnosed with breast cancer, including surgery, chemotherapy and endocrine therapy. For surgery, there are mastectomy and lumpectomy. A survey conducted by Admoun & Mayrovitz (2021) on 1,606 participants and revealed that more participants preferred to receive mastectomy when compared with lumpectomy because of less frequent chronic pain and side-effects after surgery. While chemotherapy is likely to have long-term survival in the early stage of breast cancer, it can adversely affect the women's reproductive function, including infertility in young women (Vriens et al., 2020). Radiotherapy and hormone therapy can prevent local recurrence and metastasis but can bring physical and reproductive dysfunctions, and psychological distress to the patients (Van Londen et al., 2014). Although studies have examined different treatments, limited studies have explored the reasons for making that treatment choice.

Experience of Life After Different Breast Cancer Treatments

Once diagnosed with breast cancer and have received treatment, lives can change. A number of studies have supported that treatment can impede survivors from having a normal life. A survey conducted by Bjerkeset et al. (2020) on 843 participants revealed that many respondents had experienced pain, fatigue and psychological distress. Similarly, a qualitative study found that breast cancer survivors experienced fatigue after treatment which caused them to hold hard feelings about returning to the working environment (Fadhlaoui et al., 2021). Both quantitative and qualitative research support that breast cancer treatment can cause persistent pain. Since there are different treatments and patients undergoing more than one treatment type, Bao et al. (2018) found that nearly 80% of breast cancer survivors (N=1,280) experienced at least one out of six types of treatment-related pain, including aromatase inhibitor-induced joint muscle pain, pain at the site of surgery or radiation, neuropathic syndrome, rotator cuff syndrome, lymphedema, and muscle pain following chemotherapy, had affected their return to normal life. Furthermore, cognitive decline after breast cancer treatment is also affected, as evidenced by a study on 61 breast cancer patients who had received chemotherapy (Bruno et al., 2012). Other signs of cognitive decline included delayed or inaccurate memory and poor performance in language and processing speed after treatment (Henderson et al., 2019; Root et al., 2015). The influences on social and work life such as limited activity and reduced work productivity are also found to be burdensome (Bovbjerg et al., 2019; Bjerkeset et al., 2020; Cheng et al., 2016) as well as the lack of energy to perform daily routines, interests and social commitment can make it even harder to resume normality (Keesing et al., 2018; Luo et al., 2021).

Poor adaptation of the aforementioned physical changes can lead to psychological conditions like depression, suicidal feelings, mood swings, anxiety and insomnia (Peddie et al., 2021). Aggeli et al. (2021) conducted a cross-sectional study (N=170) and found that more than one-half of breast cancer survivors had sleep disorders, 29.4% anxiety and 18.2% depression after treatments. Conversely, some breast cancer survivors possessed positive thinking, and developed fortitude and learnt to be more resilient (Fadhlaoui et al., 2021), particularly when more attention was given to promoting physical health and finding methods to alleviate the symptoms and building stronger personal strength (Luo et al., 2021). Therefore, the literature indicates that breast cancer survivors experience different negative impacts and positive personal growth after treatment. Yet, scant studies have explored the individual case-by-case experiences of women who have received different treatments.

Barriers, Challenges and Support During Survivorship

Social burden is one of the several barriers and challenges confronted by breast cancer survivors during survivorship, particularly with changes in relationships and partnerships (Jakobsen et al., 2017; Lindberg et al., 2015). There is a need to prioritize personal needs and avoid social situations owing to reduced physical stamina and cognitive deficits (Keesing et al., 2018). Another challenge is the constant financial burden resulting from the impacts of post-treatment, which can intensify the difficulties of finding suitable work and earning an income (Cheng et al., 2015). Indeed, ongoing cancer care and health maintenance, and the need to pay for health insurance for treatment are a huge cost for survivors who are without full-time jobs (Williams & Jeanetta, 2015).

Support from others is important for helping survivors to revert to normal life. Williams & Jeanetta (2015) interviewed 15 breast cancer survivors who felt abandoned by their families after treatment when they needed support. Similarly, Jakobsen et al. (2017) highlighted the importance of relationships with friends and family, and the lack of accessible resources during survivorship. Indeed, community resources are another social support for them which are not commonly mentioned. Keesing et al. (2016) interviewed eight breast cancer survivors and found that they did not receive any survival care plan or written information after treatment. Therefore, emphasis on long-term survivorship and post-treatment care should be carefully considered. The inclusion of family support should also be explored.

Knowledge Gap and Significance

While breast cancer patients receive a combination of treatments and experience different side-effects, most studies only focused on one kind of treatment or side-effects. Most studies focus on post-treatment physical experience but topics about the attitude of breast cancer survivors when facing post-treatment changes are inadequate. Besides, what life is like after treatment and factors that help survivors adapt to changes in life can be very individualized. This exploratory study can provide insights into the different side-effects of different treatment combinations and major challenges from the breast cancer survivors' perspectives. The data can assist health care professionals to generate a precise discharge care plan and follow-up directed towards survivors' specific needs. Healthcare services can be reviewed to provide services that focus on a short post-treatment period and fulfil post-treatment needs that could extend for more than five years. At present, the limited governmental healthcare resources can be supplemented by existing or newly set-up schemes and services in the non-governmental organizations to focus on breast cancer survivors who have received treatment for more than five years. Thus, this study will explore how breast cancer survivors revert to normal life after receiving different breast cancer treatments.

Methodology

Study Design

The qualitative descriptive methodology was used to interview breast cancer survivors who have completed their surgical and/or medical treatment in Hong Kong. Qualitative descriptive methodology aimed to explore meanings and experiences through the collection of rich and detailed descriptions (Lewis, 2015). As persons with different backgrounds can affect the decisions made and thoughts about breast cancer, each participant's situation and individual experiences about treatment choices and life after treatments will be carefully examined. With the in-depth focus and the desire to cover a wider range of contexts, richer descriptions or insightful explanations can arise in the study (Vaismoradi et al., 2013).

It is noteworthy to declare here that a similar qualitative descriptive case study has already been published on breast cancer survivors, and which shares some similarity to our project (Fadhlaoui et al., 2021). The study explored the same target group of post-treatment return-to-work transition experiences of breast cancer survivors under 50 years of age. However, that study did not disclose detailed family, religion and community resources after treatment, and our study will explore how these factors will affect the participants' process of coping.

Aim of Study

The aim of the study is to examine how breast cancer survivors' treatment choices affected how they coped and resumed normal life after breast cancer treatment.
The objectives are:

1. To recall how breast cancer survivors' made their treatment choice.
2. To explore the support received to cope and resume normal life after breast cancer treatment.

Sampling Strategy

Purposive sampling is used to recruit the participants. It is a non-probability sampling method that collects data from specific participants which are considered to be representative of the population being studied (Green & Thorogood, 2018). Interviews were conducted in breast cancer and experienced with the post-treatment back-to-community period. For the sample size, reference was made to the literature which suggested that three to four different cases were recommended for comparison in a multiple-case study (Burkholder et al., 2019). A small sample size in qualitative research can increase the depth of case-oriented analysis (Vasileiou et al., 2018). Therefore, the researchers found three eligible participants through their own social networks. 'Own social network' means the researcher's own family members and friends. As such, these researchers did not participate in the interviews in order to eliminate bias. The inclusion criteria are: (1) breast cancer survivors who underwent surgery; or (2) received a combination of treatments including surgery, for example, hormonal medicine, chemotherapy, and electrotherapy; (3) stopped receiving breast cancer treatment for five years or more; (4) aged over 18 years old; and (5) speaking Cantonese, English or Mandarin, and (6) live with one or more family members. Only survivors who had stopped treatment for five years or more will be included because our target group is survivors who have a certain amount of back-to-normal life experience. However, breast cancer survivors may have unresolved long-term problems which require assistance, such as unemployment, mental issues, and fear of remission. Therefore, our study focuses on the long-term needs of breast cancer survivors. The only exclusion criterion was male owing to gender differences and coping strategies (Meléndez et al., 2012). In the recruitment procedure, we asked for the participants' initial verbal consent and screened their initial eligibility and agreement to participate in the study. They were also asked about the time of receiving treatment and their age, through a phone call or text message.

Data Collection

The period of data collection was from November to December 2022. Qualitative interview attempts to understand the world and depict a complicated social world from the viewpoint of the participants (Yin, 2016). Semi-structured interviews are used to collect in-depth rich information about the breast cancer survivors' experiences to gain insights into the participants' experiences and create opportunities to learn about their own terms and how they make meaning of their own experiences, lives, and cognitive processes (Green et al., 2006). Interview questions with a wide coverage of the topic of after-treatment life were asked, focusing on 'what', 'when', and 'how' questions to obtain an in-depth understanding of their experiences (Coughlin et al., 2021). The researchers used probes such as "Who was the first person you told about your diagnosis?" or "Who was involved in the treatment decision-making with you?" to increase the flexibility, scope and depth about what to ask by following the participant's responses. Three-on-one in-depth semi-structured interviews were conducted by one research team member with the three breast cancer survivors. The same researcher conducted all the interviews to maintain consistency and reliability of the interview process. To improve and validate the study, an expert member who was a nurse and had oncology-related expertise was approached to review the interview guide and provided feedback by email. The interview guide was modified after receiving feedback. The interview questions used were as follows:

- When you were diagnosed with breast cancer, what kind(s) of treatment did you receive?
- How did you decide which treatment option to take in the first place? (*can be more than one*)

- After receiving breast cancer treatment, did you have any changes in any experience of living? (e.g., thoughts, family, friends, work, etc.)
- How do you describe the above changes in living after the treatment?
- How do you cope with the various challenges and difficulties of living after treatment?
- As you deal with the challenges and difficulties of living after treatment, have you gained any support that can help you?

Face-to-face, audiotaped interviews lasted approximately 45 minutes, and were held in a quiet and private place. The information sheet comprising of the study purpose and protocol was given to each participant, and signed informed consent was obtained. After completing the demographic data form (see Table 2 for information collected), the interview commenced. Interview questions were asked sequentially according to the interview guide. The post-interview notes and audio recordings provided comprehensive data for the study.

Ethical Considerations

The study was approved by the Research and Ethics Committee (REC) (*Project Ref. No. omitted for anonymous review*). All guidelines of the REC were followed strictly. Before starting the research, the risks and benefits for the participants were assessed. Attention was given in the interview to carefully ask questions to minimize risks of triggering participants' memories of discomfort after treatment and the hardship they have gone through during or after recovery. The interviewer was extremely sensitive to participants' feelings and gave reassurance, as needed. In case the interviewee felt uncomfortable, it was planned to stop the interview and assess the emotional status of the interviewee before resuming the interview. Participation in this study was entirely voluntary. Participants could withdraw from or refuse to join the research at any time, and could ask questions at any time. Participants were treated fairly as the interviewers and interviewees did not know each other before the interviews. A participant identification code (e.g., P1) was created. A voice recorder was used and saved the audio-recording in an encrypted e-file with password protection, and the interview notes and demographic data forms were stored in a sealed folder and locked cabinet that were accessible to the researchers only. All the data collected will be deleted and destroyed within three years after the completion of the study.

Data Analysis

The collected data were analyzed using the qualitative descriptive method by applying an inductive thematic analysis approach (Naeem et al., 2023). The audio-recorded interviews were transcribed verbatim into English transcript. Transcripts were read and cross-checked with the audio-recording several times among the researchers to ensure accuracy of the translation and the inserted intonation and nonverbal gesture (Sutton & Austin, 2015). To begin the coding process, each transcript was read line by line and sentences or phrases were highlighted to generate a list of initial codes. The coding process was completed when no new codes were discovered. After that, a table was created for the codes for each participant's data. To view across the data, all codes were listed and shown in a table format with their related highlighted sentences from the different transcripts. All the analyzed data were carefully checked and discussed among the researchers to ensure that the final themes and sub-themes that were generated addressed the research questions, research objectives and interview guide for this study.

Rigor

Credibility was demonstrated through the following means:

- Interview process and method included participating in interview training sessions, online meetings, and simulated interview sessions to ensure identical interview procedures with different participants. Audio recordings were kept generating accurate verbatim of each participant. The 45-minute interviews ensured prolonged engagement.
- Referential adequacy materials are added to the content of the interview that will be analyzed to increase validity (Lincoln & Guba, 1985). These included records of interviewers' own thoughts and opinions during data analysis and records of participants' non-verbal responses like facial and body expressions.
- Peer debriefing sessions were held at different stages of the data analysis process to ensure the credibility of data. They provided feedback on overemphasized or under-emphasized areas, and suspected bias in the data. Dependability was demonstrated by:
- Careful and detailed documentation such as research plan, aim and objectives, and related documents such as ethics application.
- Abundant information for audit was produced from the audio records, transcripts and other research notes kept for inspection, as needed.

Confirmability was demonstrated by reflective journaling and triangulation of the study by using interviews, post-interview observation forms, field notes and audio recordings to re-check the accuracy of data.

Results

Table 2 shows the demographic data of the three participants. Table 3 summarizes the themes and subthemes.

Table 2. Demographic data of the participants

	Participant 1	Participant 2	Participant 3
Age (years)	≥ 60	≥ 60	≥ 60
Education level	Primary	Primary	Tertiary
Living with family	No	Yes	Yes
Marital status	Married	Married	Widowed
Have children	Yes	Yes	Yes
Employment status	Retired	Retired	Retired
Family history of breast cancer	No	Yes	No
Age diagnosed with breast cancer	60 years old	44 years old	65 years old
Stage of cancer	3	1	2

Treatment received for breast cancer	Surgery Chemotherapy Radiotherapy	Surgery Radiotherapy Hormone therapy	Surgery Radiotherapy Hormone therapy
Duration of treatment(s)	< 12 months	3-4 months	< 12 months
Length of survivorship (years)	7	12	33

Table 3. Themes and subthemes

Themes	Sub-themes
Individual breast cancer treatment and advice received	Making treatment choices Listening to professionals and making own treatment choices
Changes to life after breast cancer treatment	Negative experiences in symptoms and body image Positive outlook on life
Support to cope with challenges	Support from family and friends Support gained from religious beliefs Social support from community centres

Individual Breast Cancer Treatment and Advice Received

Making Treatment Choices

In terms of treatment choices, participants underwent different combinations of treatments and all of them had surgery. When asked about which treatment option to take in the first place, all participants were found to be following their doctor's advice on treatment choices. At that time, the majority of participants showed a lack of knowledge about their disease and treatments but had confidence in their doctors:

> *"I don't know what kind of breast cancer it was because I did not search for it in detail. I just followed the doctor's suggestion to undergo the treatments if the doctor thought it is necessary. I think doctors are professionals. We should trust them."(P3)*

Although all participants chose to follow the doctor's advice, they could choose to receive treatment in private or public hospitals, and which doctor to perform surgery for them. Two participants had finished treatment and had follow-ups in both private and public hospitals. One participant could choose the surgeon in a public hospital by paying a higher cost and had the follow-up in a public hospital and fully complied with the doctor's arrangement.

> *"If you could afford the private fee, the senior doctor in that hospital would do the treatment in a hospital private room. There was no guarantee for outside treatment quality, but the best doctor in a private hospital could give a psychological guarantee."(P2)*

Moreover, two participants visited their traditional Chinese medicine practitioner for relieving tiredness and poor appetites, and found it effective:

> *"I visited a traditional Chinese physician and took two doses of Chinese medicine. It was amazing. I gained energy right after having the first dose of Chinese medicine." (P1)*

One participant shared her experience of listening to a friend's suggestion about taking a traditional Chinese supplement, and later regretted saying it was better to follow the doctor's advice and not choose suggestions that are not scientific:

> *"Her friend had eaten the Trametes versicolor capsules and had less vomiting and dizziness. I ate it two days before chemotherapy. Later, I could not do chemotherapy due to my blood test platelet count dropping by half suddenly. I should not eat it." (P3)*

Listening to Professionals and Making Own Treatment Choices

When participants were asked for advice about treatment choices for women newly diagnosed with breast cancer, all participants suggested listening to the healthcare professionals. One participant emphasized not trusting unscientific advice. Another suggested the treatment plan should be the patient's own decision because doctors might not inform you of all side-effects of the treatment. She thought that her uterine tumour was caused by the hormonal drug for breast cancer treatment. Also, she regretted receiving further treatments after surgery:

> *"Doctors don't care about you. They send the patient to chemotherapy once the patient is diagnosed with breast cancer. If I went back in time and the doctor advised me to do chemotherapy and surgery, I would only have surgery and not chemotherapy and radiotherapy." (P2)*

Other healthcare professionals such as nurses provided plentiful breast cancer-related information during their recovery. However, two participants did not follow the nurse's advice and showed regrets:

> *"I haven't worn the prosthetic breast for a while as it was troublesome when doing sports. It turns out that not wearing prosthetic breasts leads to my breasts being asymmetrical on both sides. Please remember to educate the patients, if not, it's too late to regret as I did." (P2)*

Changes to Life After Breast Cancer Treatment

All participants expressed positive and negative changes to life after treatment regarding how they now look at life and themselves. Overall, they outlined the negative changes in physical and psychological but also the positive changes in mental and social outcomes, such as being more optimistic and expanded social circle.

Negative Experiences in Symptom Experience and Body Image

Participants experienced different discomforts and symptoms, depending on the treatment received. Chemotherapy caused poor appetite and hair loss. Radiotherapy caused skin itchiness and discomfort which still existed after finishing radiotherapy for more than 11 years. Participants who had wound pain and tingling in the chest wall, armpit, and arm said:

> *"The wound was painful (after surgery). It really hurt at that time. It was so painful that I could not even lift my arm to comb my hair." (P2)*

The participant who underwent chemotherapy described changes in appetite and felt stomach discomfort after the second attempt of chemotherapy:

> *"I felt some discomfort in my stomach, lost appetite and tired after chemotherapy." (P1)*

Tiredness was another common side-effect of each treatment. Participants reported that one or more symptoms such as pain, poor appetite or fatigue had a significant impact on their after-treatment life. These symptoms placed restrictions on their daily activities, social and household tasks:

> *"I feel pain when I'm in holding something heavy. I need to wear shrink sleeves. It will get wet when doing exercise. If you don't wear it, it will swell across your wrist." (P2)*

For hair loss caused by chemotherapy, wigs and hats were used to increase their self-esteem. Some participants expressed worry and unhappiness that people would notice their apparent physical differences (e.g., bald hair), as mentioned:

> *"I was a bit unhappy about my appearance after the second chemotherapy, I lost all my hair. I had to wear a wig and hats when I did not wear wigs. It makes you feel bad." (P1)*

Long-lasting skin problems caused by radiotherapy can be relieved by skin care endured:

> *"You know how itchiness is. I think about the solutions such as trying different creams. It is still not working." (P3)*

Positive Outlook on Life

Although some participants regretted some of their choices and actions, all participants showed a positive attitude toward the disease during the interview. Two of them emphasized that being optimistic to fight the disease was important, especially for younger patients. Although participants were not young when diagnosed with breast cancer, they still faced the challenges in their lives and urged themselves to be optimistic, fearless, courageous, and remain hopeful during recovery. One participant chose to do what was meaningful to them instead of indulging in the cancer pain:

> *"Cancer patients usually did not die due to illness. They died for fear... What I want is not to leave this world. My children were still young, and my business was getting better and better at the time. I could not die yet. I was in my 40s at the time, I needed to be brave and adapt. Now I am 76 years old." (P2)*

Support to Cope with Challenges

Support from Family and Friends

When discussing the support received to cope with breast cancer treatments, all participants thought of their family members. Two participants gained support from their husbands, as follows:

> *"My family members helped do the housing chores like buying food and cooking." (P3)*

Daily and housework assistance helped breast cancer survivors to focus on taking care of their health, regain energy to work and make a balance between work and rest. Therefore, they can adapt to the changes in daily living and return to normal life, as mentioned:

> *"I do not think it (breast cancer) affected my life because my family helped me a lot. I did not need to worry about the household chores. I could focus on taking care of my health, including exercise." (P1)*

They received support from their family not only included assistance with daily and housework, but also finances, accompanying them for treatments and follow-up appointments, and emotional support that helped them adapt to changes after receiving treatments. Most of the participants stated that family support motivated them to overcome breast cancer and difficulties during recovery, as exemplified below:

> *"I think it is ok because of assistance from the family. I think family is the best. These all helped me, my family and friends." (P1)*

However, one participant reported that the disease did not bring more connection with her friends as everyone needed to work. Friends would care about them and gave advice to them after the treatments, but they remain at a distance to avoid disturbing their rest.

> "My friends are nice because they always call me and comfort me. But they are afraid of disturbing my rest." (P1)

Support Gained from Religious Beliefs

Perceptions and attitudes towards coping with breast cancer were influenced by religious beliefs. Two participants believed in Buddha while one participant had no religious belief. Being religious helped them a lot and gave them energy. One of them just let nature take its course and another participant stated that life was full of uncertainty and her religion made her optimistic.

> *"As I was down and worried, believing in Buddha makes me better and more comfortable by chanting Buddhist scripture. I think less about negative things." (P1)*

The positive energy gained from religious beliefs gives them a calm attitude to face the challenges in daily living after treatments and return to normal life.

Social Support from Community Centres

All participants joined community support groups after the treatments to further cope with their situation. Two participants claimed that support groups provided them with peer support, which improved their social life and emotions, as below:

"If you tell non-breast cancer patients about your difficulties, they won't understand. If you tell other breast cancer patients about your difficulties, they will be more understanding of your situation." (P2)

Therefore, social support from breast cancer support groups is important to provide an opportunity for breast cancer survivors to make more friends with similar experiences. Moreover, support groups provided courses and activities that allowed them to get information, share feelings and difficulties with other cancer survivors, and stay updated with breast cancer developments. This helped them cope with the challenges and get back to normal life.

Discussion

This qualitative descriptive study reported the experiences of breast cancer survivors from making treatment choices to coping with the challenges faced during the recovery process. All participants had more than one type of breast cancer treatment. After recalling how they decided on the treatments, coped with relapse, and reflected on treatments, they expressed various challenges that may have contributed to the positive and negative changes in their daily living and self-growth. Some methods were found to relieve the physical and psychological discomforts. Support from friends, family, community centers and religious beliefs gave them the energy to cope with the challenges and return to normal life.

Most participants verbalized they had no regret and were satisfied with the treatment choices made and advice received. According to the Hospital Authority of Hong Kong (2022), a semi-urgent case has to wait for an average of 5.5 weeks for surgery in a public hospital but can receive surgery within two weeks in a private hospital. Participants in our study could choose to undergo some treatments either in public or private hospitals. Indeed, the financial ability, services provided, and reputation of different hospitals were their prime considerations. Participants' persistence in continuing and finishing follow-up treatments show that follow-ups are effective in maintaining their positive physical and psychological health. Comparatively, Fernandes-Taylor & Bloom (2011) found that more than 40% of breast cancer survivors regretted some aspects of treatments five years after treatment. Those who felt anxious about the future had problems communicating with their doctors during treatment, or with new or recurrent cancers five years after were more likely to regret their treatment choice. In our study, one participant regretted receiving radiotherapy and hormone therapy. Another participant shared a similar experience and mentioned that doctors just wanted to over-treat her and pushed her to get chemotherapy after the surgery. This highlights that breast cancer patients might not have enough time and are usually being rushed to consider their treatment choices. Breast cancer treatment plan should allow time to allay anxieties and understand the patient's needs first and followed by the provision of relevant information about treatment choices on offer.

In our study, the participant regretted taking hormonal therapy and thought it led her to have uterine tumour. A cohort study by Ryu et al. (2022) found that 0.02% of breast cancer survivors who received tamoxifen as a hormonal therapy were newly diagnosed with endometrial polyps each year. This suggested that taking tamoxifen as a hormonal therapy may slightly increase the risk of uterine cancers. However, Chen et al. (2018) found that the risk of patients developing second cancer in female organs was high, with the strongest bidirectional association between the ovary and uterine. This suggests that the uterine tumour was more likely to be due to her past health history of breast cancer. Hence, it is important for healthcare professionals to provide sufficient treatment-related information to the patients to avoid regrets later.

Physical discomforts were accorded highly in our study with participants having to endure these changes during the recovery process. Participants emphasized many times the importance of taking enough rest. Indeed, a study has found that over 60% of breast cancer survivors reported difficulty falling asleep, frequent nighttime awakenings, and early morning awakenings with the inability to sleep again during treatments such as chemotherapy, radiation therapy, and surgery (Van Dyk et al., 2021). Moreover, studies found that at least one-half of breast cancer patients experienced acute pain after surgery, as well as pain, which could occur after radio-, chemo- and hormone therapy (Lorenzo-Gallego et al., 2022). Our study showed similar symptom experiences and body image concerns compared to those found in China and Norway (Cheng et al., 2016; Fauske et al., 2015), particularly with participants accepting the short spurt of pain after surgery. To deal with the actual discomforts and symptoms after breast cancer treatment, some point-by-point methods were adopted for physical problems such as analgesics to relieve pain, and body lotions to relieve skin dryness and itchiness. Moreover, our participants used traditional Chinese medicine to relieve the side-effects brought by breast cancer treatments. It is common among Chinese breast cancer patients with fewer side-effects and can minimize sleep disturbance and fatigue (Hung et al., 2023; Wang et al., 2020). For psychological problems associated with hair loss, Özüsağlam & Can (2021) found that using accessories like hats, bandanas, scarves, wigs, etc. can decrease distress.

All participants had enhanced positive life outlooks and presented very bold and positive attitudes towards life after treatments. For example, one participant was optimistic about her wound site even though the drain had accidentally slipped off. She believed that “life is full of uncertainty” and “health condition is ever-changing”. They were open-minded to accept the facts and positively dealt with the negative cancer experiences. This is consistent with Conley et al. (2016) who suggested that emotional regulatory processes were important throughout the trajectory of surviving cancer, and that survivors who experience negative feelings should be offered help to regulate their emotions.

The positive attitude of participants might be related to the support and daily help from family, friends, community centers and religious beliefs. Consistent with a qualitative study on Chinese breast cancer survivors, Wang et al. (2020) found that the emotional assistance provided by the nuclear family members, in particular, can enable the survivors to feel highly valued. Religious belief was another source of energy for the participants. One participant referred to ‘going with the flow’, while the other was optimistic because of her religious belief. The findings are consistent with the study that identified that breast cancer survivors made a clear connection between acceptance of breast cancer, its course of treatment, and potential death outcomes with their religious beliefs (Saab & Han, 2022). All participants joined community support groups after the treatments. Here, they shared information in the support groups which could help breast cancer patients or newly diagnosed breast cancer patients to realize the real experiences of survivors. They could also gain peer support and improve their emotions and social life. Support groups have been shown to offer a platform to address psychological needs, improve satisfaction and quality of life of breast cancer survivors (Green et al., 2018; Haris et al., 2019).

Limitation of Study

Only three participants were included in this undergraduate student’s final year project to enable the students to become familiar with the conceptualization, execution and write-up the final research report. By handling a few participants, students could comfortably learn the qualitative research process, and successfully grasp understanding of the basic research principles and knowledge in relation to qualitative data collection and data analysis. In relation to treatment choices, this study had recruited participants who adhered to the doctor's advice on treatments and only one participant thought that breast cancer patients should make their own decisions under the doctor's advice. For the treatment choices, they only selected where to receive treatment and who will operate on them. Further research is recommended to understand what ‘alternative treatment choices’ could be offered to persons diagnosed with breast cancer.

Implication of Study

Gaining insights into the needs of breast cancer survivors' experiences can enable healthcare professionals and policymakers to develop follow-up plans and directions that are tailored to their post-treatment care and recovery. Our study found that having access to timely treatment-related information is essential in building professional-survivor’s relationships and enabling them to continue to make informed treatment choices for themselves. Establishing supportive community networks to bring together family, friends and breast cancer survivors could unite them and help to go through the endless physical discomforts and negative feelings and get back to normal life.

Conclusion

Breast cancer survivors faced challenges when resuming their normal life. This exploratory study highlighted greater attention should be given to the treatment-related information for building professional-patient relationships and supporting breast cancer women in making treatment choices. Our study highlighted that the various treatments that breast cancer patients can receive can lead to physical, psychological and social challenges that prohibit them from resuming normal life after different treatments. The experience of the survivors provides different perspectives on the impacts of treatments on their lives. It offers insight into health care provisions that are offered to breast cancer survivors after treatment, and to understand the obstacles they might go through in their cancer survivorship to uphold their quality of life.

Declaration Statement

The authors declare no competing interests. The paper has not been previously published, nor is it submitted to another journal for consideration.

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