RESEARCH ARTICLE

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Exploring Discomfort Experienced During Chemotherapy in Thai Breast Cancer Patients

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Abstract

Introduction: Breast cancer is the most common cancer in females worldwide, and a new era is prevalent in the early stage. A qualitative approach explores discomfort experienced during adjuvant chemotherapy among Thai breast cancer patients. **Method:** The participants were selected by purposive sampling with a variation of two comprehensive cancer centers. Individual in-depth interviews were conducted with fifteen patients who had completed the second cycle of adjuvant chemotherapy prior to the interview. **Results:** A qualitative content analysis of data revealed two themes, six categories, and 23 sub-categories. The themes defined discomfort characteristics and factors leading to discomfort. Among all the categories were described physical discomfort, environmental discomfort, psychological discomfort, needing to relieve discomfort, lack of socio-cultural support, and lack of mental support. **Conclusion:** There is a need to alleviate discomfort, specifically due to Thai beliefs and culture related to patient self-management and nursing care. These findings may be extended to best practice nursing interventions to enhance comfort outcomes for breast cancer patients and elevate patient satisfaction.

Keywords: Breast cancer- chemotherapy- discomfort

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Introduction

Breast cancer is the most prevalent cancer in women worldwide and the leading new cancer in the early stage. As of 2020, there were 7.8 million women alive diagnosed with breast cancer in the past five years (WHO, 2021). In Thailand, breast cancer is the most prevalent cancer in Thai women (National Cancer Institute, 2019). Early-stage (stage I-IIA) and locally advanced stage (stage IIB-IIIC) cancers are prevalent in 81.88% of patients. The metastatic stage (stage IV) is prevalent in only 18.12% of patients (National Cancer Institute, 2019). Adjuvant therapy is a type of therapy that follows primary treatment, such as surgery, to remove a cancerous tumor. The main goal of adjuvant chemotherapy is to lower the chance that cancer will return and improve the outcome of first-line treatment. (National Comprehensive Cancer Network, 2019).

Discomfort for breast cancer patients might be felt during adjuvant chemotherapy simultaneously with a side effect from previous treatment, such as after surgery. Adjuvant therapy can consist of physical discomfort, including pain, fatigue, difficulty sleeping, nausea and vomiting, taste disorders, hair loss, constipation, diarrhea, sexual dysfunction, loss of appetite, and weight loss. (Rha and Lee, 2017; Sullivan et al., 2018; Uysal et al., 2018). In addition to negative treatment expectations, the higher patient complaints about the worsening physical conditions are more anxiety, more distress, and lower quality of life; however, the psychological discomfort also affects low self-awareness and self-confidence. Breast cancer also entails challenges to emotions and body image, raising sexual concerns. Social function disabilities such as loss of a breast, hair loss, medicine-induced weight gain/loss are associated with body-image disturbance, feelings of unattractiveness, and loss of femininity. Several former studies also found that breast cancer patients might suffer from adverse economic and financial effects during chemotherapy. (Heisig et al., 2016; Nahm et al., 2018).

A medical team currently has personalized therapy as a unique patient-centered and patient needs approach whose goal is good clinical outcomes and patient satisfaction (Srisatidnarakul, 2017). Relieving discomfort can be distinguished from the clinical nursing perspective, and discomfort assessment is crucial in caring for those suffering. When nursing care matches the appropriate treatment to the proper physical or psychological symptom, it promotes patient comfort in all clinical areas and reflects good oncology nursing care.

This concept of a qualitative study to explore patients' experiences and results can apply to nursing interventions. Thus, this study aimed to explore the perceptions and sentiments of patients with Thai breast cancer during chemotherapy, allowing researchers and healthcare providers to better understand patients' feelings and

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discomfort experiences.

Materials and Methods

This study aimed to explore discomfort experienced during adjuvant chemotherapy in Thai breast cancer patients. Also, this study explored patients' needs when they faced side effects during adjuvant chemotherapy, even at home, and influences leading to discomfort.

Phenomenology is a suitable way to understand a patient's experience (Manen, 2016; van Manen et al., 2016). In-depth interviews consisting of a semi-structured questionnaire with open-ended questions were used to collect data on the participants.

Settings and Participants

This study was conducted in two comprehensive cancer centers, including public and private sectors. Purposive sampling was used based on the following inclusion criteria: (1) adult cancer patient diagnosed with breast cancer stage I-IIIC, (2) the patient who had completed the second cycle of adjuvant chemotherapy prior to the interview, (3) ability to communicate in Thai; (4) no hearing or communication difficulties and willing to participate in this study. The participants were enrolled and interviewed until data was saturated.

Data collection

The participants recognized the role of the interviewer. The participants were informed of the study's purpose and method. During the qualitative descriptive interviews, the process began after receiving chemotherapy and was observed 1 hour before discharge.

In-depth interviews were conducted in the ambulatory chemotherapy units. All participants were interviewed face-to-face using semi-structured questionnaires, which three phenomenology experts approved. The initial questions mainly were based and began with, "Please tell us how you felt when you received chemotherapy. "Did you have any symptoms during chemotherapy?". Specific prompts were elaborated on, such as, "What can you do and what can't you do during chemotherapy?" and "What do you want to do that you did not do? How do you feel now?".

The researcher conducted in-depth interviews with the participants for 30-45 minutes. The interview was audiotaped using an MP3 player. The researcher perspective-filled offers insightful field notes, recording interviews, and verbatim transcription data analysis. After each interview, the audiotapes were listened for increased understanding of essence and nuance. The transcription was checked line-by-line, processes were discovered, the data was broken into significant parts, and each principal sentence was coded. The study reached data saturation after fifteen interviews with eight participants from the private sector and seven participants from the public sector.

Data analysis

Data were analyzed based on phenomenology as a distinct attitude to qualitative research (Barnard et al., 1999). Patients' perceptions were analyzed and categorized into three inquiry steps (Hsieh and Shannon, 2005). The first step was achieved by precisely reading all transcripts several times. The second step concerned learning the concepts and the most significant assertions. Statements were compared regarding deviation or agreement, in terms of similarities and differences, before being grouped into qualitatively different categories. The third step concerned how patients described various aspects of specific discomfort during chemotherapy. Audio and visual files were stored and archived on a hard drive and cloud-based server for later access. Transcriptions were typed in a word file format. Qualitative data analysis software was used.

Validity and reliability

Validity was established through data triangulation. A frequent data report analysis was verified during the interviews, including the text field. The information came from the various areas of participants.

Lincoln and Guba (1985) trustworthiness strategies were used to ensuring the validity and reliability of the data. The constructs correspond to the criteria employed by the investigator: credibility, transferability, dependability, and confirmability (Guba, 1981). In this step, the structured interview questions were checked by three qualified experts in the field of phenomenology before beginning the interview process. Five experts in chemotherapy were used in the audit technique to achieve dependability and confirmability. The transferability process decided on internal consistency, comparing the categories and sub-categories with the comfort theory and literature review. (Shenton, 2004).

Results

Table 1 shows the characteristics of fifteen breast cancer participants. All participants had previous treatments with breast surgery, including Mastectomy and Breast-Conserving Surgery. Patients who participated were in stages I-IIIC. Types of adjuvant chemotherapy included Paclitaxel-based, Docetaxel-based, Adriamycin-based, and Methotrexate. The adjuvant chemotherapy ranged from 2 to 8 cycles. The religion of nearly all participants was Buddhism, while there was one Muslim and one Christian. Their caregivers were spouses and family members, and only one participant didn't have any caregivers. The payment health coverage types were as follows: self-pay, social security scheme, government or state enterprise officer, universal coverage scheme, insurance, and company welfare.

Phenomenological analysis findings

The discomfort experienced in Thai breast cancer patients participating was classified into two themes: 1) Discomfort characteristics defined as physical discomfort and psychological discomfort, and 2) Factors leading to discomfort. The categories and sub-categories of each theme are summarized in Table 2.

Table 1. Demographic Characteristics of Participants in the Qualitative study

Participants code	Cancer Stage	Chemo-based	ECOG score	Cycle	Previous treatment	Religion	Caregiver	Payment
W01	II	Paclitaxel	0	8	BCT*	Buddhism	Father/mother	Self-pay
W02	II	Adriamycin	1	4	Mx**	Muslim	Daughter	Self-pay
W03	II	Paclitaxel	1	8	Mx**	Buddhism	Father/mother	CW******
W04	III	Adriamycin	2	6	Mx **	Buddhism	Husband	Self-pay
W05	II	Paclitaxel	1	8	BCT *	Buddhism	Husband	Insurance
W06	II	Paclitaxel	2	8	BCT*	Buddhism	Husband	CW******
W07	I	Paclitaxel	1	7	BCT *	Buddhism	Husband	Insurance
W08	I	Paclitaxel	1	4	Mx **	Buddhism	Sister	Self-pay
G03	III	Docetaxel	0	2	Mx **	Christian	Husband	UC *****
G04	III	Adriamycin	0	5	Mx **	Buddhism	Husband	UC *****
G05	III	Docetaxel	1	5	Mx **	Buddhism	Daughter/son	UC *****
G06	III	Paclitaxel	2	5	Mx **	Buddhism	Sister	OFC ***
G07	III	Paclitaxel	1	8	Mx **	Buddhism	None	SSS****
G08	II	Paclitaxel	1	8	Mx **	Buddhism	Husband	UC *****
G09	III	Docetaxel	2	4	Mx **	Buddhism	Husband	UC *****

BCT *, breast-conserving therapy; Mx **, mastectomy; ECOG, Eastern Cooperative Oncology Group performance status; OFC ***, government enterprise officer; **** SSS, social security scheme; UC *****, Universal Coverage scheme; CW******, company welfare

Physical discomfort

The participants defined physical discomfort characteristics by experience and categorized them into symptoms and environmental discomfort.

Discomfort symptoms

The participants intrusively expressed their discomfort symptoms in physical components. During adjuvant chemotherapy, the physical discomfort symptoms included nausea, vomiting, loss of appetite, taste change, arthralgias, peripheral neuropathy, insomnia, constipation, abdominal discomfort, and fatigue. The participants described their discomfort as "Whenever I received chemotherapy, I felt discomfort at night that made me unable to sleep." (W02). "I had tried to walk upstairs, and it was hard about one week after chemotherapy. (G07). Someone said, "I felt so weak to do normal activities or participate in normal daily life, and my abdominal discomfort meant that I could not normally eat" (W01).

Most of the physical discomfort symptoms were due to the adverse effects of adjuvant chemotherapy. In addition, their discomfort decreased or increased after having more individual experience with chemotherapy. Nausea and vomiting are related to loss of appetite after chemotherapy in someone. Chemotherapy was found to disrupt eating habits and cause disturbances in the digestive tract. "I lose my appetite after receiving chemotherapy for about one week, and I feel distressed also."(G09). "I have bowel movement difficulties and constipation after receiving chemotherapy for one day." (W08). The feeling of numbness in the hands and feet, tingling and burning sensations in the palms. Most of burning sensations occurred in Paclitaxel-based chemotherapy. "I felt pain in my leg bones and bodily aches for three days after receiving each chemotherapy cycle" (G03)

Environmental discomfort

The physical environmental discomfort is related to the patient's perceptions and affected comforts, such as light, sound, smell, and room facilities. The physical environment can make the patients feel stressed, unsafe, and uncomfortable. The patient needs an excellent physical climate in terms of smell, light, temperature, hygiene, and room facilities. "I spend about 4-6 hours receiving chemotherapy at a time of chemotherapy administration, and I feel the chair is uncomfortable" (W04). The room environment can make stressful environment. "I felt stressed when there was a bad drug smell in the environment when I received chemotherapy" (W01). "I like environments free from bad smells. Bad smells make me nervous" (W04). "When I received chemotherapy, sometimes I felt too cold in the room" (G04).

The main side effect of chemotherapy is immunocompromised. The patients were apprehensive about the side effects of chemotherapy, such as becoming infected easily due to a decrease in white blood cells. "After receiving chemotherapy, I was worried about a decreased white blood cell count and afraid of infections, so I need to be in a hygienic environment" (G07). The patient worried about being in a non-hygienic environment. "I am very concerned about infection, especially COVID-19, because, after chemotherapy, my WBC decreases, and I can become infected easier. Then I need a hygienic environment for safety" (W05 and W03).

Psychological discomfort

Stress, anxiety, fear, and hopelessness are all psychologically related to discomfort. The patients expressed low self-esteem and confidence from alopecia. "I'm a beautiful person, but hair loss has caused concerns about unattractiveness, loss of confidence, and loss of femininity" (W04). "I needed social privacy

Table 2. Categories and Sub-categories of Comfort Experiences of Thai Breast Cancer Patients During Adjuvant Chemotherapy.

Theme	Categories	Sub-categories	Discomfort experiences
Discomfort Characteristics	Physical discomfort	Insomnia	I awakened easily, and my sleep time was reduced.
		Constipation	I had constipation after receiving chemotherapy.
		Abdominal distension	I felt abdominal discomfort.
		Nausea and vomiting	I had feelings of nausea and indigestion.
		Loss of appetite	My sense of taste changed.
		Fatigue and tried	I rested periodically while performing activities, feeling exhausted.
		Numbness and pain	I had numbness in the hands and feet, tingling and burning sensations in the palms.
		Arthralgia	I had pain in the legs, leg bones, and bodily aches.
	Environmental discomfort	Smell disturbance	My home environment sometimes had a smell disturbance.
		Physical position discomfort	The hospital environment didn't support comfortable positions while sitting or lying down during chemotherapy sessions.
		Non-hygienic environment	I felt my home environment is non-hygienic.
		Discomfort weather and light	I needed a relaxing room in the hospital with warm light, calm and suit of temperature.
Factors leading to discomfort	Psychological discomfort	Hair loss	My hair loss problem caused concerns about unattractiveness, loss of confidence, and loss of femininity.
		Dark marks on the skin	My stress is caused by dark marks on my nails and blood vessels.
		Emotional uncontrol	I felt in a bad mood with poor emotional control, annoyance, and irritability.
	Needing to relieve discomfort	Need to cope	I prayed daily to find peace, observed religious rites, became ordained, or practiced dharma.
		Need to relieve the side effect symptoms	I alleviated symptoms between drug treatment sessions: and took Thai herbal medications, such as snow lotus, pear juice, and caterpillar fungus.
	Lack of socio-cultural support	Lack of financial support	I reduced my income when I had to leave work after receiving chemotherapy, and the next time, I had to work harder.
		Loss of social role	I needed to maintain my work role even though I was sick.
	Lack of mental support	Lack of family support	I needed family support. I lived with family or loved ones who encouraged and supported my burdens.
		Loss of family role	I was able to perform family responsibilities as usual.
		Loss of family responsibilities	I felt encouraged to receive treatment and did not want to postpone chemotherapy appointments. I need to complete the treatment as a plan.
		Lack of relationship with a partner	I tried to have a good relationship with my husband in sexual activities.

because I did not want to be viewed as a sick person by surrounding people. Sometimes, "I stress after receiving chemotherapy; my skin becomes red, darker, or peeling in the vein line." (G08). "I felt stressed due to dark marks on my nails and blood vessels, and I had to wear shirts that could cover my skin." (G07). Some patients felt hopeless, discouraged, worried, and afraid of recurrence when receiving chemotherapy. "I worry about disease recurrence." (W09). Also, if they have received treatment several times, it puts them in a bad mood where they have poor emotional control and makes them feel annoyed and irritable.

Factors leading to discomfort

A significant consequence of chemotherapy is an increased chance of survival; however, it also prolongs the treatment period. The implications benefit anticancer, but the patients have to endure the side effects. Therefore, several patients stated their need to relieve discomfort experienced during their treatment to reduce side effects significantly. The discomfort relief methods made them face a lack of socio-cultural support and a lack of environmental and mental support.

Needing to relieve discomfort

The Thai Breast patients experienced physical comfort by understanding and culturally managing symptoms. Patients managed their discomfort and felt more comfortable by themselves or seeking others' assistance. One patient needed to change her work role during chemotherapy, "I am a teacher. After chemotherapy, I changed the subject that I taught from Mathematics to Social sciences because it makes me less stressed" (G06). Several patients used Thai herbs to relieve their discomfort and make them feel more comfortable. "When I felt like I had a fever, I used a Thai herb named the King of bitters (Pha-Talai-chon) because I did not want the side effects of paracetamol to affect my liver" (G05). "I took herbal medications, such as snow lotus and pear juice and caterpillar fungus to alleviate symptoms during treatment periods" (W04). "Sometimes, I feel fatigued after chemotherapy for 2-3 days, and I feel refreshed after sipping cannabis extract" (G06). Some patients also relieved their discomfort with religious support, "I prayed every day for peace; observed religious rites; became ordained or practiced dharma" (G07). "I made donations, engaged in charity, visited almshouses, made

merit by offering robes to Buddhist monks, and made votive offerings" (W02). The patients needed to find symptom self-management strategies because most chemotherapy side effects occur at home. The strategies can be generated from patients' experiences, knowledge, cultures, and beliefs.

Lack of Socio-cultural support

A lack of socio-cultural support may be related to psychological discomfort. Some participants said that they had financial difficulties due to treatment costs and the cost of living from their salary. Some of them had to quit their jobs. The participants who didn't have financial coverage for chemotherapy treatment, such as self-insurance and self-pay, were more concerned about treatment costs. "I'm concerned about the cost of chemotherapy because I need financial support from my mom" (W04). One patient needed to keep their job and needed their colleagues to accept their condition and understand they might perform their work with less ability than before. "I need my boss and colleagues to understand and support me during chemotherapy" (G07). Cultural beliefs restrict food intake and eating habits. "I discontinued consuming certain foods such as pickled or fermented foods, meats, half-cooked foods, and processed foods" (G03). Religious influences have been mainly comprised of Buddhism. "I need to feel peaceful and relaxed when making merit at a temple, and I believe it will make cancer disappear" (W02). "I need to make merit with a monk while staying in hospital" (G05).

Financial support consisted of family support, self-pay, insurance, and government coverage. They were concerned about their income from work or business, and social influencers were working environment and relationships. Financial problems in caregivers reduced QOL and increased burden (Vashistha et al., 2019).

Lack of Mental support

Fear of cancer recurrence contributes to depression in cancer patients. During chemotherapy, patients need support from someone they love or family. Most participants stated that they had a restricted social life due to their increased burden during chemotherapy. Some were concerned that they failed to look after their children due to their responsibilities adequately. "My son does not like me to go to the hospital because I'm so weak after discharge" (W05). Participants were concerned about social connections when they were in chemotherapy. "I need to finish the treatment as fast as possible because I need to take care of my kids" (G05). The financial issue was a critical factor that influenced the participants. "I was worried about the cost of chemotherapy, but my mother supported me" (W03). "I need to receive treatment in a private hospital, and luckily, my family can support me" (W01).

They accepted their situation but felt free to change it to a more appropriate phrase and deal with their suffering. The side effect of hair loss was the most frequent concern of the participants. Suppose the participants were accepting of their situation. "I have no stress and no embarrassment following hair loss by wearing wigs, head coverings, and hats." (G08). Their hope helped them raise their self-esteem; "I felt encouraged in receiving treatment and did not want to postpone drug treatments." (GO6). "I believe that chemotherapy can cure the disease." (G04). Some participants felt happy when referring to their husbands and felt confident when they held on to their role as a wife. "I have sexual activities as normal with my husband, and he makes me confident even though I lost my breast" (G06). "My husband understands me in this situation and doesn't force me into sexual activities (W02).

Discussion

This study revealed that Thai breast cancer patients' experienced discomfort during adjuvant chemotherapy. The study found two themes of discomfort: discomfort characteristics and factors leading to discomfort. The patients experienced discomfort characteristics combined with physical discomfort (discomfort symptoms and environmental discomfort) and psychological discomfort. The factors leading to discomfort included needing to relieve discomfort, lack of socio-cultural support, and lack of mental support. However, in this study, the participants were nonmetastatic breast cancer. They found fewer physical discomfort symptoms than in the former study relating to chemotherapy side effects because pre-medicine effectively covers some side effects (Hsu et al., 2017).

A physical environment is an environment that supports the patients' perceptions. Patients need an excellent physical environment regarding smell, light, temperature, and room facilities to feel relaxed, safe, and comfortable (Desautels et al., 2018; Mora and Meteyer, 2019; Sadek and Willis, 2020). Most participants are very concerned about the hygienic environment primarily because of the pandemic of COVID-19 in Thailand. They were the immunocompromised host. Then they tried to live a healthy lifestyle by wearing face masks and eating healthy food (Sadek and Willis, 2020).

Psychological discomfort defines as negative illness perception. Body image change, lack of emotional support, and lack of support from one's partner let the patient have less inner consciousness, self-esteem, and refuse changes resulting from treatment and less feeling in the meaning of life. Body image was also a critical concern for the patients. They need to understand their body concept revealed (Medeiros et al., 2019). Discomfort from stress may be reduced through body image support, emotional support, family support, social support, and family involvement in the treatment process (Zaker et al., 2022) which helps raise their inner consciousness, self-esteem, and acceptance of changes resulting from the treatment and helps them to lead a fulfilled life. Most participants used positive coping strategies to overcome the stress related to diagnosis and chemotherapy (Sharma et al., 2021).

The factors leading to discomfort affect the patient's quality of life. The specific issues in Thai culture mainly focus on problems (Mick, 2007; Phongnopakoon et al., 2018) related to religious beliefs (Song et al., 2014). The psychological strategies to change the social and surrounding environment could decrease chemotherapy

side effects, make a good attitude, and endorse a tremendous lifestyle change (Rattanakanlaya, 2014; Krongyuth, 2018).

Conclusion and implication in nursing practice

This study has several young participants; someone had a performance status change from healthy to sick in everyday life. They need to maintain roles in their work that use technology support such as the internet or social media. Hence, their living environment and hospital environment must support the internet. They were also concerned about the cost of treatment and their financial status related to employment. Financial toxicity will decrease their socioeconomic status (Nogueira et al., 2020; Janmunee et al., 2021).

The other findings are the self-management methods that they used are related to Thai cultural beliefs. Most health-seeking behaviors are driven by socio-cultural (Al Suqri et al., 2021). Natural remedies were significantly used, including herbal medicines and natural food supplements.

A finding tells us that the spiritual approach is essential to support a good body image. The patients' strategy to improve their body image was to wear a wig made of natural hair. They can cope and connect to everyday life by believing in their culture. Hence, hospitals should contact the wig service support and suit diverse cultural activities. Then the best policy and practice concept of body image support for cancer service standards.

Author Contribution Statement

Srisatidnarakul B: Conceptualization, methodology, investigation, data curation, supervision, writing original draft, writing review & editing, and final approval, Phongnopakoon P: Conceptualization, methodology, investigation, data curation, formal analysis, writing original draft, and writing review & editing, and Yu-Yun Hsu: Conceptualization, writing review & editing, and final approval.

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Limitations of the Study

This study was performed with Thai participants, specifical women with stage-I-IIIC breast cancer receiving adjuvant chemotherapy. Hence the results cannot reflect the discomfort experienced in the metastatic stage.

Ethical considerations

The ethics committee approved this study of Thammasat University, No. 3 (No. 093/2563 on 20/09/2020), Bangkok hospital (No.BHQ-IRB-2020-07-21 on 02/09/2020), National Cancer Institute, Thailand (No.020_2020T_OUT662 in 03/08/2020). Data were collected after permission was obtained from the director of each hospital. The researcher selected the volunteer participants and explained this to them. Written informed consent was obtained from them before data collection was conducted.

Conflict of Interest

The authors have no conflicts of interest to disclose.

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