

CHAPTER II LITERATURE REVIEW

A. Concept *Ca mammae*

1. Definition

Ca mammae (breast cancer) is a type of malignancy that develops in the breast tissue and generally starts from the epithelial cells that form the ducts or lobules. This definition focuses on the histopathological aspect, namely the location of origin of abnormal cells that undergo transformation into cancer cells in the structure of the milk transport duct and in the mammary-producing gland unit. Knowledge of the source of malignant cells is an important basis in determining the classification *Ca mammae* and the most appropriate therapeutic approach for the patient (Dean *et al.*, 2022).

Ca mammae is a malignant neoplasm that develops within the breast tissue and has the potential to spread to various other organs. This definition confirms the hallmarks of malignant tumors, namely the uncontrolled growth of cells in breast tissue as well as the infiltrative properties that allow cancer cells to penetrate surrounding tissues and metastasize to distant parts of the body. This ability to metastasize is what makes *Ca mammae* has a high severity, especially when the diagnosis is established at an advanced stage (Sung *et al.*, 2021).

Based on some of the theories above, researchers concluded that *Ca mammae* is a malignancy that comes from ductal epithelial cells and breast lobules that undergo genetic changes so that they grow uncontrollably, are invasive, and have the ability to metastasize to other tissues and organs. This cancer is not only understood from the location of origin of the malignant cells, but also from its aggressive and progressive biological nature, which makes it one of the forms of cancer with a high morbidity and mortality rate if not diagnosed early.

2. Klasifikasi

a. *Ca mammae* Invasif

Ca mammae Invasive known as infiltrative carcinoma, it is characterized by the ability of cancer cells to penetrate the basal membrane and attack connective tissue as well as surrounding fatty tissue. These malignant cells not only damage the ducts and walls of the mammary glands, but can also break away from the primary tumor, then grow and spread to other organs or parts of the body through the lymphatic system and bloodstream (Reed *et al.*, 2021).

b. *Ca mammae* Non-Invasif

Ca mammae Non-invasive, or carcinoma in situ, is a type of cancer in which malignant cell growth is still limited to the ductal and lobule epithelium without penetrating the basal membrane. This means that the cancer cells have not invaded the surrounding breast tissue (Reed *et al.*, 2021).

3. Risk factor

Until now, the exact cause of *Ca mammae* It still cannot be comprehensively explained. However, according to Roheel *et al.*, (2023), identify a number of factors that play a role in increasing the risk of occurrence *Ca mammae*. These factors are generally divided into two categories, which are as follows:

a. Non-modifiable risk factors

1) Age

The risk of *Ca mammae* increases with age. Most cases occur in women over the age of 50 due to the accumulation of cell changes and long-term exposure to carcinogens.

2) Gender

Women have a higher risk of developing *Ca mammae* because breast tissue is strongly affected by the hormones estrogen and progesterone. High or imbalanced hormone levels can promote abnormal cell growth.

3) Factor genetics

A family history of *Ca mammae* can increase the risk of developing this disease. About 10% of cases are related to inherited gene mutations and complex genetic change processes.

4) Reproductive history

Reproductive factors such as menarche age, menopause, pregnancy, breastfeeding, and length of exposure to reproductive hormones play a role in influencing the risk of *Ca mammae*.

5) Density of breast tissue

Women with denser breast tissue have a higher risk of developing *Ca mammae* compared to those with more fatty breast tissue.

6) Previous Radiation Therapy History

Exposure to radiation to the chest area, especially before the age of 30, can increase the risk *Ca mammae* in the future, especially in individuals with a family history of breast cancer (Rohely) *et al.*, 2023).

b. Modifiable Risk Factors

1) Diet pattern

Diet affects the risk of *Ca mammae*. High consumption of saturated fat can increase the risk, while the intake of antioxidant-rich soybeans, vegetables, and fruits can help protect the body from cancer development.

2) Alcohol consumption

Alcohol consumption can increase the risk of *Ca mamamae* because it can raise estrogen levels, interfere with DNA repair, and produce carcinogenic substances that trigger cell mutations.

3) Physical activity

Regular physical activity can help maintain hormonal balance, control weight, and reduce the risk of *Ca mammae*.

4) Obesity

Obesity can affect the risk of *Ca mammae*, especially in postmenopausal women due to increased estrogen production from fat tissue. Weight gain increases the risk, while weight loss can lower it.

5) Use of hormonal contraceptives

Long-term use of hormonal contraceptives as well as postmenopausal hormone therapy can increase the risk of *Ca mammae*, especially if used for a long time (Rohely) *et al.*, 2023).

4. Signs and symptoms

- a. The appearance of a new lump in the breast or armpit area.
- b. There is thickening or swelling in the breast.
- c. The presence of irritation or indentations (dimples) on the skin of the breasts.
- d. The skin around the nipple appears reddish or peeling.
- e. Pain occurs when the nipple is pulled or touched.
- f. Discharge from the nipple other than breast milk.
- g. There is a change in the shape or size of the breast.
- h. Pain appears in the breast area (Dean *et al.*, 2022).

5. Pathophysiologists

Ca mammae It is preceded by genetic and epigenetic mutations in breast epithelial cells that cause uncontrolled cell proliferation and disruption of the apoptosis process. Mutations in genes such as BRCA1, BRCA2, and TP53, accompanied by the influence of the hormone estrogen, contribute to the formation of cancer cells. Furthermore, cancer cells undergo angiogenesis, evade the immune system, and invade surrounding tissues and metastasize to other organs through the lymphatic system and blood vessels (Rohely) *et al.*, 2023).

6. Stage

a. Stadium I

The tumor is less than 2 cm in size and has not spread to the lymph nodes or other organs. At this stage, the chances of cure are very high because the cancer is still limited to breast tissue (Andi Herawati *et al.*, 2021).

b. Stadium II

The tumor is 2–5 cm in size or has spread to the axillary lymph nodes. Management is generally in the form of surgery that can be combined with radiotherapy or chemotherapy (Andi Herawati *et al.*, 2021).

c. Stadium III

The tumor is more than 5 cm in size or has spread to the chest wall, breast skin, and lymph nodes around the breast area, but has not metastasized to distant organs. The therapy given is usually a combination of chemotherapy, radiotherapy, and hormonal therapy (Andi Herawati *et al.*, 2021).

d. Stadium IV

The cancer has metastasized to other organs such as the lungs, bones, liver, or brain. Management focuses on palliative therapy to control symptoms, slow disease progression, and improve patients' quality of life (Andi Herawati *et al.*, 2021).

7. Governance

a. Chemotherapy

Chemotherapy uses anticancer drugs given orally or intravenously to kill cancer cells left after surgery and control the spread of cancer. Side effects that often appear include nausea, hair loss, and fatigue (Walit Ukhri Mukrin's *et al.*, 2024)

b. Therapy Hormone

Hormone therapy is given to breast cancer that is affected by the hormones estrogen or progesterone. This therapy aims to inhibit

the work of hormones through medications or ovary removal measures in premenopausal women (Walit Ukhri Mukrin's *et al.*, 2024)

c. Surgery

Surgery is the top choice in management *Ca mammae*, especially in the early stages. There are two types of procedures that are commonly performed, namely lumpectomy and mastectomy (Walit Ukhri Mukrin's *et al.*, 2024).

d. Radiotherapy

Radiotherapy uses high-energy X-rays to destroy cancer cells and prevent their growth. This therapy is generally given after a lumpectomy and can cause temporary side effects such as fatigue, skin irritation, and changes in breast tissue (Walit Ukhri Mukrin's *et al.*, 2024).

B. Concept of Chemotherapy in *Ca Mammae* Patients

1. Definition

Chemotherapy on *Ca mammae* It is a systemic therapy that uses antineoplastic agents to destroy and inhibit the growth of breast cancer cells. This therapy works on cancer cells in primary locations as well as those that have spread through the bloodstream, so it is one of the main methods in managing breast cancer at various stages of the disease (Abdel-razeq *et al.*, 2022).

According to Fauziah *et al.*, (2022), chemotherapy on *Ca mammae* It is the administration of cytotoxic drugs that aim to inhibit the growth and division of cancer cells so that they can reduce the size of the tumor and improve the patient's condition. Because it works systemically, this therapy is an important part of breast cancer management, both for curative purposes, adjuvant therapy, and neoadjuvant therapy (Abdel-razeq *et al.*, 2022).

2. Classification

a. Chemotherapy Neoadjuvant

Neoadjuvant chemotherapy is given before surgery with the aim of reducing the size of the tumor so as to facilitate surgery and increase the success of therapy. A good response to this therapy is often associated with a better prognosis, especially in HER2-positive breast cancer and *triple-negative* (White *et al.*, 2024).

b. Chemotherapy Adjuvant

Adjuvant chemotherapy is given after surgery or radiotherapy to remove any cancer cells that may still remain. This therapy aims to lower the risk of recurrence and increase the patient's survival rate (White *et al.*, 2024).

c. Palliative chemotherapy

Palliative chemotherapy is intended for patients with *Ca mammae* advanced or metastatic stage. The goal is to reduce symptoms, slow the progression of the disease, and improve quality of life without focusing on healing (White *et al.*, 2024).

3. Purpose and Benefits

a. Purpose

Chemotherapy on *Ca mammae* It aims to destroy cancer cells, reduce tumor size, inhibit the spread of disease, and reduce the risk of recurrence. In addition, chemotherapy plays a role in improving the success of the surgery and the patient's survival rate through the elimination of the remaining cancer cells after the main therapy (Burghardt *et al.*, 2023).

b. Benefits

Benefits of chemotherapy on *Ca mammae* is its ability to control the growth and spread of cancer cells systemically to other organs. A good clinical response to this therapy becomes an important prognostic indicator to assess the patient's chances of recovery. In addition, chemotherapy has been shown to improve the

quality of life of patients holistically by reducing the size of the tumor, thereby minimizing both clinical symptoms such as pain (Burghardt *et al.*, 2023).

4. Types of Drugs

Chemotherapy on *Ca mammae* uses a variety of cytotoxic agents to inhibit the growth and spread of cancer cells. These drugs are selected based on the tumor subtype, stage of the disease, and the patient's condition (Burghardt *et al.*, 2023).

a. Alkylating agent (*cyclophosphamide*)

Used in AC/CAF regimens to eradicate residual cancer cells and micrometastases.

b. Anthracycline (*doxorubicin, epirubicin*)

Works to damage the DNA of cancer cells in neoadjuvant/adjuvant therapy, with cardiotoxicity risk monitoring.

c. Antimetabolite (*5-fluorouracil, methotrexate*)

Combined in a CMF/FAC regimen or metronomic oral dose for metastatic cases.

d. Taxane (*docetaxel, paclitaxel*)

Stops cell division and is often combined with anthracycline to improve pCR response and *overall survival*.

5. Side Effects

a. Physical Side Effects

2) Hair loss (*alopecia*)

occurs due to hair follicle damage in about 89.6% of patients with an anthracycline regimen, which is at risk of lowering self-image.

3) Pain

In the form of neuropathic or inflammatory pain (mucositis/stomatitis) that interferes with activity and decreases quality of life.

4) Nausea and vomiting

As a result of stimulation of the center of nausea in the brain by chemotherapy drugs, more than 90% of patients experienced it in the initial cycle.

5) Peripheral neuropathy

Symptoms of tingling, paresthesia, pain, and balance disorders, especially on *the paclitaxel-epirubicin-fluorouracil* regimen.

6) Skin problems

Dry, scaly skin, rashes, and hyperpigmentation occur due to damage to the basal cells of the epidermis.

7) Kelelahan (*fatigue*)

It is triggered by a combination of pain, anemia, sleep disturbances, and decreased appetite.

8) Allergic reactions

Drug immune response that triggers symptoms of rashes, itching, shortness of breath, and anaphylaxis (Zhao et al., 2022).

b. Psychological Side Effects

1) Helplessness

A sense of loss of control over life due to the severity of the side effects of the treatment.

2) Anxiety

Deep concern over the effectiveness of therapy, disease progression, and risk of death.

3) Rasa malu

A decrease in self-image due to physical changes that seem real such as alopecia and skin changes.

4) Decreased self-esteem

Impact of limited physical functioning, changes in social roles, and dependence on others (Mulyani *et al.*, 2021).

5) Stress

Psychological-emotional response to cancer verdict and severity of the treatment process.

6) Depression

It is highly related to the intensity of physical side effects; Patients with severe physical symptoms are more prone to emotional fatigue and depression (Zhao et al., 2022)..

C. The Concept of Depression in *Ca Mammae* Patients Undergoing Chemotherapy

1. Definition of Depression in *Ca Mammae* Patients

Depression in patients *Ca mammae* is a mood disorder (*mood disorder*) in the form of prolonged emotional distress due to disease stressors, such as diagnosis verdict, fear of death or recurrence, post-operative self-image changes, and treatment side effects. This maladaptive condition goes beyond ordinary situational distress, which risks lowering self-esteem, impairing social functioning, and inhibiting patient adherence to cancer therapy (Ducharme *et al.*, 2023).

Clinically, these symptom signs meet the criteria for major depressive disorder characterized by affective and cognitive core symptoms of depressive mood and persistent anhedonia (Samara & May, 2022).

Based on this, it can be concluded that depression in *Ca mammae patients* is not just a momentary emotional reaction, but a complex psychological impact of physical, psychological, and social complications during the medical management process.

2. Factors Causing Depression in *Ca Mammae* Patients

According to Samara & May, (2022), factors that contribute to depression in patients *Ca mammae* It is grouped into two main categories, namely:

- a. Factors related to disease and treatment
 - 1) Side effects of chemotherapy
 - 2) Duration of chemotherapy
 - 3) Diagnosis of diseases and physical complications
 - b. Psychological Factors as a Secondary Response
 - 1) Body *image* changes
 - 2) Prolonged stress
 - 3) Negative mindset
3. Depression Rate

According to Samara & May, (2022), the level of depression based on its symptoms is divided into:

a. Mild depression

It is characterized by a loss of interest, a decrease in energy that triggers mild fatigue, as well as a decrease in concentration and confidence. Symptoms last at least 2 weeks and only cause minimal obstacles in social activities and work.

b. Moderate depression

It is characterized by a decrease in energy and more real activity, concentration disorders, a decline in self-esteem, the appearance of guilt, and a pessimistic view of the future. This condition lasts at least 2 weeks and causes significant difficulties in carrying out social, work, and domestic functions.

c. Severe depression

It is characterized by extreme depressed moods, complete loss of interest, and a drastic decrease in energy. Symptoms are accompanied by ideas of sin/worthlessness, behavioral tendencies of self-harm or suicide, and severe sleep disorders that can be accompanied by paranoia and hallucinations. These symptoms persist for at least 2 weeks (Samara & May, 2022).

4. Factors influencing depression in *ca mammae* patients undergoing chemotherapy

a. The Spiritual Meaning

Spirituality is an internal resource that provides a framework of meaning in dealing with suffering. The power of faith and religious practice effectively facilitates self-acceptance, fosters hope to fight despair, and serves as an active coping mechanism in managing patients' anxiety (Titan) *et al.*, 2022).

b. Social support

Social support acts as a stress buffer (*stress buffer*) external that reduces the impact of disease and isolation. Through emotional support (feeling loved) and instrumental (practical/financial assistance), these factors are able to reduce loneliness and provide a positive coping model for the patient's recovery (Ducharme *et al.*, 2023)

5. Depression Measuring Tool

To measure the level of depression in respondents, this study used the Beck Depression Inventory-II (BDI-II) developed by Beck, Steer, and Brown. BDI-II is a self-report instrument consisting of 21 items that measure symptoms of depression in emotional, cognitive, and somatic aspects. Each item has four answer options with a score of 0–3 according to the severity of the symptoms experienced by the respondent. The total score is obtained by summing up all item scores resulting in a score range of 0–63. The higher the score obtained, the higher the level of depression the individual experienced. BDI-II has been widely used in research and clinical practice because it has good psychometric characteristics (Biracyaza & Rusengamihigo, 2021).

Research by Biracyaza & Rusengamihigo, (2021) in cancer patients showed that BDI-II had excellent internal reliability (Cronbach's $\alpha = 0.904$), adequate validity, and good sensitivity and specificity for depression screening in oncology populations.

In addition, Almeida *et al.*, (2023) reported that BDI-II had good construct validity and criterion validity in cancer patients, with an accurate ability to identify depressive symptoms despite the overlap between depressive symptoms and physical symptoms due to cancer and the therapy undergone by the patient. The study concluded that BDI-II has good psychometric characteristics and remains suitable for use as a depressive screening instrument in cancer populations (Almeida *et al.*, 2023).

Therefore, BDI-II was chosen as the appropriate instrument to measure the level of depression in breast cancer patients undergoing chemotherapy because it has been shown to be valid, reliable, and sensitive in detecting changes in psychological conditions in cancer patients (Biracyaza & Rusengamihigo, 2021).

D. The Concept of Spiritual Meaning

1. Definition

Spirituality is an individual's internal process in seeking meaning, direction, and serenity in life through relationships with transcendent forces, existential values, or beliefs (Daher *et al.*, 2023).

In chronic disease conditions such as *Ca mammae*, the dimension of the meaning of life (*A Meaning of*) and inner peace (*Peace*) in spiritual well-being has been proven to be able to reduce emotional burden and symptoms of depression. Therefore, strengthening the spiritual aspect serves as a crucial coping element to improve the quality of life of patients, so that the fulfillment of this need needs to be comprehensively integrated into clinical and palliative care services (Titan) *et al.*, 2022).

Based on this theory, it can be concluded that spirituality is an internal foundation that provides meaning and peace for *Ca mammae patients* in the face of psychological pressure, as well as being an important therapeutic instrument to strengthen their coping and mental

well-being during the treatment period.

2. The Role of Spirituality in Mental Health

Spirituality contributes significantly to maintaining mental health by lowering levels of stress, anxiety, and depression. Individuals with strong spirituality tend to have high resilience and are able to apply adaptive coping strategies when dealing with stressful life situations (Daher et al., 2023).

3. Factors Affecting Spiritual Levels In *Ca Mammae Patients*

According to Abzhanova *et al.*, (2024) The level of spirituality and increased spiritual needs in breast cancer patients is influenced by several central determinants, including:

a. Religious and Cultural Background

Religious teachings and cultural values that have been embraced since childhood shape the way patients interpret the meaning of their illness. Religious beliefs, moral principles, and worship rituals are important foundations in the process of finding the meaning of life, transcendent relationships, and inner peace of mind of cancer patients.

b. Social Support

Support from family, partners, friends, and the community makes it easier for patients to develop a constructive understanding of their disease. The presence of this support system is also effective in lowering existential anxiety during the treatment period.

c. Life Experience

Personal experiences such as marital status, a history of chronic illness, or the loss of a loved one, prompt individuals to reevaluate their life goals. The crisis plays a role in shaping a new perspective on the direction of life and spiritual relationship with God.

d. Spiritual Practice

Spiritual activities (such as prayer, remembrance, religious studies, and meditation) contribute significantly to providing emotional calm, fostering optimism, and reducing psychological distress. In addition, active involvement in this practice has been shown to strengthen the patient's coping resilience and effectiveness during therapy.

4. Measuring Spiritual Meaning

To measure the level of spiritual meaning of respondents, this study used *Functional Assessment of Chronic Illness Therapy–Spiritual Well-Being* (FACIT–Sp) This instrument consists of 12 items that measure spiritual well-being which includes three dimensions namely *Meaning*, *Peace*, and *Faith*. In this study, each item was graded using a Likert scale of 0–3, so the total score ranged from 0–36, with higher scores indicating a better level of spiritual significance (Liu *et al.*, 2022).

E. Social Support Concept

1. Definition

Social support is the help that individuals receive from the people closest to them. Such as family, spouses, friends, and community. In the form of emotional encouragement, information, practical assistance (financial/transportation), and rewards (Ducharme *et al.*, 2023).

In the health world, this support serves as a stress buffer (*stress buffer*) that provides a sense of security, acceptance, and affection. The positive effect is to protect patients from psychological distress, improve self-control, and maintain mental well-being during the treatment period (Fan *et al.*, 2024).

Based on the researchers' theory, the researcher concluded that social support is any form of real help and attention from the interpersonal environment that makes individuals feel safe, valued, and loved, so that they are better prepared psychologically in the face of a health crisis.

2. Social Support Resources

a. Social Support from Family

It is the most basic and stable source of support. It takes the form of affection, practical help, and a consistent sense of security. Family support plays a key role in increasing self-confidence, maintaining emotional stability, and building patient resilience when facing life pressures (Sodippus *et al.*, 2023).

b. Social Support from Peers

It provides a sense of empathy, similarity of fate, and emotional validation for being in a similar phase of life. This relationship provides a safe space that is free from formal pressure, effectively protecting the patient from stress, anxiety, and loneliness (Sodippus *et al.*, 2023).

c. Social Support from *Significant Others*

Come from a special figure who is highly trusted such as a partner, mentor, or health worker. This support is more personal and deep, serves to provide strong motivation, a sense of emotional security, and is able to fill the void if the support of family or friends is inadequate (Sodippus *et al.*, 2023).

3. Forms of Social Support

a. Dukungan Instrumental (*Tangible Assistance*)

Concrete and tangible assistance such as money, food, goods, or manpower assistance. This support instantly eases the burden of material and practical tasks, thereby reducing the psychological pressure of the patient (Sodippus *et al.*, 2023).

b. Emotional *Support*

Providing affection, empathy, attention, a sense of security, and a willingness to listen to patients' complaints. This support serves to calm the patient's emotions and reduce anxiety (Sodippo *et al.*, 2023).

c. *Esteem Support*

In the form of positive reinforcement, recognition, and good judgment from the environment. This support is effective in increasing confidence, strengthening self-esteem, and motivating patients to face challenges (Sodippus *et al.*, 2023).

d. *Support from Social Groups (Network Support)*

The feeling of being part of a community that has similar interests or experiences. This network provides a sense of community, a place to share inspiration, and prevent patients from social isolation (Sodippus *et al.*, 2023).

4. *Factors Affecting Social Support*

a. *Physical Needs*

Fulfilled physical well-being (such as food, clothing, and shelter) becomes an important foundation for patients. If these basic physical needs are disrupted, the patient's energy focus will be depleted to survive, so that interaction and attachment to social support becomes suboptimal (H. Zhang *et al.*, 2024).

b. *Social Needs*

Patients with good communication and socialization skills will find it easier to build positive interpersonal relationships. The fulfillment of these social needs provides a sense of acceptance and appreciation, thus expanding the ongoing support network (H. Zhang *et al.*, 2024).

c. *Psychic Needs*

The need for a sense of security, emotional calm, and spiritual belief encourages patients to seek reinforcement from others. The presence of social support during this crisis has been proven to be effective in maintaining psychological balance, reducing stress, and improving patients' mental health (H. Zhang *et al.*, 2024).

5. Social Support Measurement Tool

In this study, the level of social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS). The instrument consists of 12 items that measure perceptions of social support from three main sources: *Family*, *Friends*, and *Significant Other*. Each item was graded using a Likert scale of 1–5, so the total score ranged from 12–84, where higher scores indicated a stronger level of social support, MSPSS has been shown to have a stable three-factor structure as well as high reliability in a wide range of populations, including individuals with chronic health conditions, MSPSS remains consistently used in medical and cancer populations with high Cronbach's alpha reliability values as well as good construct validity (Zimet et al., 1988).

F. The Relationship of Spiritual Meaning to the Depression Level of *Ca Mammae Patients* Undergoing Chemotherapy

Spiritual meaning is one of the essential elements in a holistic nursing approach that helps patients *Ca mammae* develop adaptability during chemotherapy. The individual's ability to give meaning to illness, believe in divine value, and interpret suffering as part of life's journey allows patients to respond to stress more positively. According to Viktor Frankl's Logotherapy, the search for meaning in life is a fundamental aspect that helps individuals survive suffering, even in extreme conditions; When a person finds meaning, he does not easily fall into despair and depression because he has a fixed direction and purpose in life (Cristina *et al.*, 2021).

This concept is reinforced by the Roy Adaptation Model theory, which explains that spirituality enhances adaptive abilities through the coping mechanism of regulators and cognitors, so that patients are able to manage physiological changes due to chemotherapy such as pain, fatigue, and changes in self-image (Nursalam *et al.*, 2023).

From the side of positive psychology, the theory *Fredrickson About Broaden and Build Positive Emotion states that positive emotions arising from spiritual practices such as prayer, remembrance, and resignation are*

able to broaden thinking, increase cognitive flexibility, and build long-term psychological resources that protect patients from depression. In addition, spirituality has been shown to lower levels of stress hormones such as cortisol through neuroendocrine mechanisms, so that it can improve mood, improve sleep quality, and reduce emotional burden. Research in the field of psycho-oncology also shows that spirituality can increase meaning-focused coping, which is a type of coping strategy that is more effective in chronic diseases than problem-focused coping that often cannot be applied to cancer conditions. This makes patients more able to accept conditions they cannot change, thus reducing the risk of depression (Visser *et al.*, 2020).

A number of studies support the role of spirituality in reducing depression in breast cancer patients. High spirituality is known to increase resilience so as to help patients cope with psychological distress during treatment (Daralina *et al.*, 2024). In addition, spirituality also plays a role in reducing feelings of hopelessness, increasing self-acceptance, and providing inner peace that supports the patient's psychological resilience during chemotherapy (Wiksuarini *et al.*, 2021). These findings are in line with international research showing that the meaning of life (*meaning in life*) and inner peace (*peace of mind*) is an important factor associated with low rates of depression in cancer patients (Canada *et al.*, 2023).

Overall, these theories prove that spiritual meaning not only provides emotional strength, but also strengthens coping mechanisms, stabilizes emotional regulation, and builds hope, thus becoming a significant protective factor against depression levels in *Ca mammae* patients undergoing chemotherapy.

G. The relationship of social support to the level of depression of *ca mammae* patients undergoing chemotherapy

Social support has an important role in lowering the risk of depression in patients *Ca mammae* who are undergoing chemotherapy. The

chemotherapy process often causes various side effects such as fatigue, pain, hair loss, and body image changes, which can affect the psychological health of the patient. This condition makes the patient prone to depression, especially when the emotional burden is not balanced by the support of those closest to them. Good social support in emotional, informational, and instrumental forms has been shown to improve coping skills, reduce stress, and reduce symptoms of depression in breast cancer patients (Thing *et al.*, 2025).

Social support has an important role in lowering the risk of depression in patients *Ca mammae* who are undergoing or have completed chemotherapy. The treatment process often causes various physical and psychological problems, such as fatigue, pain, hair loss, and changes in body image, which can affect the patient's mental state. Without adequate support, the condition can increase the risk of emotional disorders, especially depression. Studies have shown that social support, whether emotional, informational, and instrumental, can improve coping skills, reduce stress, and reduce depressive symptoms, as well as contribute to improving the quality of life of cancer patients (Chen *et al.*, 2023).

The influence of social support is explained through several theoretical models, the most important of which is the Stress-Coping Model. In this model, social support works as a buffer (*buffering effect*) which reduces the negative impact of chemotherapy stressors on psychological well-being. Positive social interactions help patients feel accepted and not isolated, which directly improves Subjective Well-being and counteracts feelings of powerlessness. More than just emotional comfort, instrumental support (practical help) and informational (advice on managing side effects) is also vital because it effectively thwarts *Learned Helplessness*, foster Self-Efficacy, and restore patients' sense of control over their recovery process (Roy *et al.*, 2021)

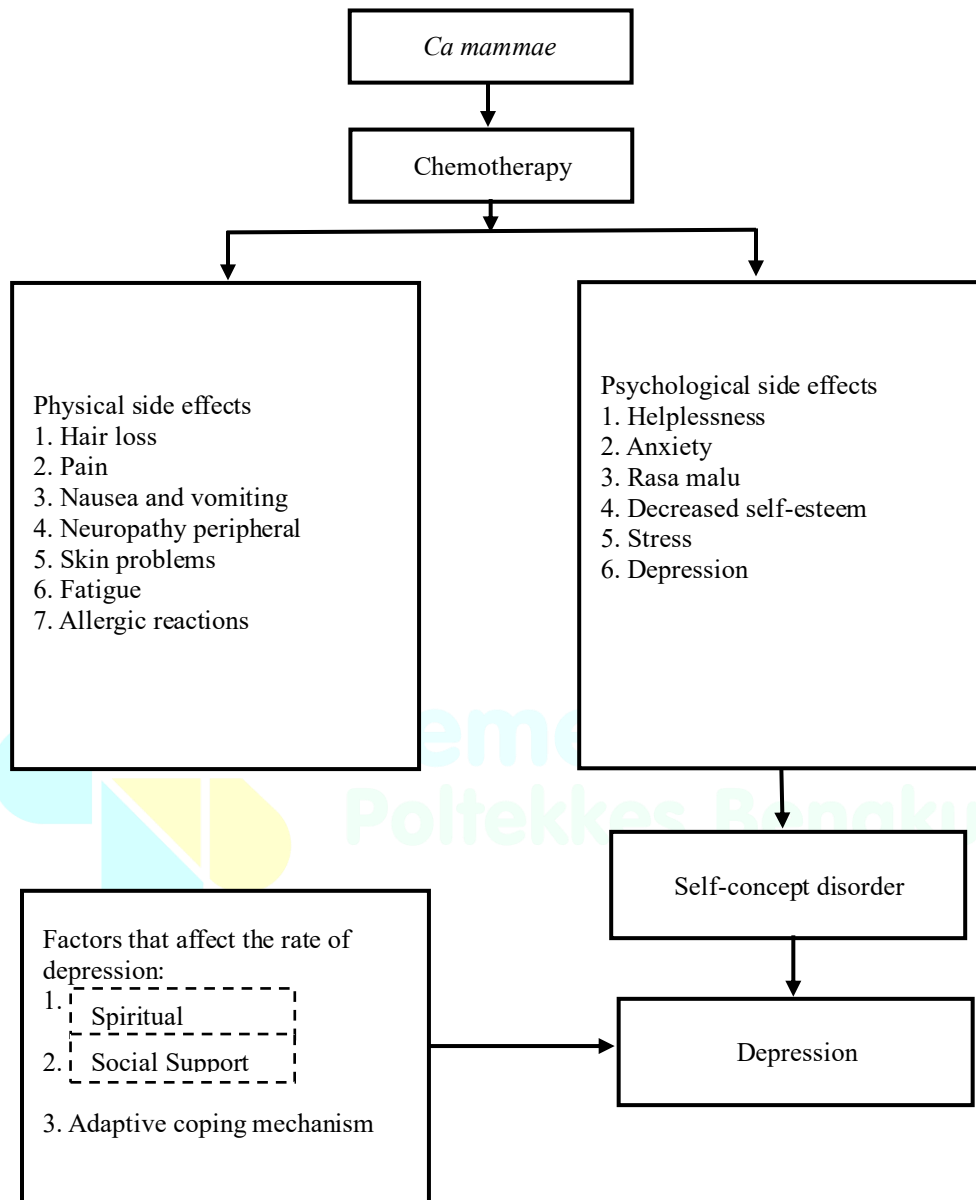
Previous research has shown that cancer patients who receive high social support tend to experience lower rates of depression than patients

with minimal social support. Social support from family, friends, and health workers has been shown to play an important role in reducing depression, reducing anxiety, and improving the quality of life of patients during chemotherapy (Zhou *et al.*, 2022). In addition, emotional and instrumental support also helps to increase the mental resilience of patients in the face of cancer therapy (Calderón *et al.*, 2021).

Furthermore, positive social interaction helps patients feel accepted, appreciated, and not isolated, thereby reducing negative perceptions of the disease and its treatment process. It is known that chemotherapy can affect cognitive function and emotion regulation, so the presence of adequate social support serves as a buffer (*buffering effect*) against the psychological pressure that arises. This shows that social support not only provides a sense of emotional security, but also facilitates patients to obtain information, advice, and practical help related to the management of therapeutic side effects (D) *et al.*, 2025).

Thus, it can be concluded that social support has a significant relationship with the level of depression of *Ca mammae* patients undergoing chemotherapy. The higher the social support received, the lower the level of depression experienced by the patient. These findings confirm the importance of the role of family, social environment, and health workers in providing consistent support during the treatment process of *Ca mammae*.

H. Theoretical Framework



Description :

 : Factors to be examined

Chart 2.1 Theoretical Framework

Source : (Rahmawati *et al.*, 2022), (Zhang *et al.*, 2022), (Kim) *et al.*, 2023), (Yuswitasari *et al.*, 2021)