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Comparison of Quality of Life During Hormonal Therapy and Chemotherapy in Breast Cancer Patients at Dr. Moewardi Hospital: A Cross-Sectional Study

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Abstract

Introduction: Breast cancer is the most frequently diagnosed cancer and the leading cause of cancer-related death among women worldwide, accounting for 25% of all cancer cases and 15% of cancer-related mortality in women. Adjuvant therapies include chemotherapy, hormonal therapy, targeted therapy, radiation, or combinations thereof. The quality of life (QoL) of breast cancer patients varies depending on type of therapy, patient's condition, and associated side effects. Evaluating QoL differences between hormonal therapy and chemotherapy is essential to assess treatment outcomes and guide clinical decisions. **Methods:** This cross-sectional study involved 240 breast cancer survivors treated at the Oncology Department of Dr. Moewardi Hospital. Selected participants using random sampling in two groups: 120 patients each groups undergoing chemotherapy and hormonal therapy. Data were collected through interviews and standardized questionnaires using the EORTC QLQ-C30 instrument. QoL data were categorized, and statistical analysis was performed using chi-square tests to examine associations between treatment type and QoL. Logistic regression was used to assess the strength of relationships between variables. **Results:** Groups receiving hormonal therapy, 116 (96.7%) reported good QoL, and 4 (3.3%) reported moderate QoL. In the chemotherapy group, 80 (66.7%) reported good QoL, 39 (32.5%) moderate, and 1 (0.8%) poor QoL. A statistically significant difference in QoL was observed between the two groups ($p = 0.001$). Dyspnoea was the only symptom that showed a significant association with treatment type ($r = 0.208$; $p = 0.020$). Across general health status, functional scales, and symptom scales, hormonal therapy was associated with better QoL outcomes than chemotherapy. **Conclusion:** There is a significant difference in the QoL of breast cancer patients undergoing hormonal therapy compared to chemotherapy. Hormonal therapy was a better overall QoL.

Keywords: Quality of Life, Breast Cancer, Hormonal Therapy, Chemotherapy

Abstrak

Pendahuluan: *Kanker payudara adalah kanker yang paling sering didiagnosis dan penyebab utama kematian terkait kanker di kalangan wanita di seluruh dunia, menyumbang 25% dari semua kasus kanker dan 15% dari angka kematian terkait kanker pada wanita. Terapi adjuvan meliputi kemoterapi, terapi hormonal, terapi target, radiasi, atau kombinasi dari semuanya. Kualitas hidup (QoL) pasien kanker payudara bervariasi tergantung pada jenis terapi, kondisi pasien, dan efek samping yang terkait. Mengevaluasi perbedaan QoL antara terapi hormonal dan kemoterapi sangat penting untuk menilai hasil pengobatan dan memandu keputusan klinis.* ***Metode:*** *Studi potong lintang ini melibatkan 240 penyintas kanker payudara yang dirawat di Departemen Onkologi Rumah Sakit Dr. Moewardi. Peserta dipilih menggunakan pengambilan sampel acak dalam dua kelompok: 120 pasien masing-masing kelompok yang menjalani kemoterapi dan terapi hormonal. Data*

dikumpulkan melalui wawancara dan kuesioner standar menggunakan instrumen EORTC QLQ-C30. Data QoL dikategorikan, dan analisis statistik dilakukan menggunakan uji chi-square untuk memeriksa hubungan antara jenis pengobatan dan QoL. Regresi logistik digunakan untuk menilai kekuatan hubungan antar variabel. ***Hasil:*** *Pada kelompok yang menerima terapi hormonal, 116 (96,7%) melaporkan kualitas hidup (QoL) yang baik, dan 4 (3,3%) melaporkan QoL yang sedang. Pada kelompok kemoterapi, 80 (66,7%) melaporkan QoL yang baik, 39 (32,5%) sedang, dan 1 (0,8%) QoL yang buruk. Perbedaan QoL yang signifikan secara statistik diamati antara kedua kelompok (p = 0,001). Sesak napas adalah satu-satunya gejala yang menunjukkan hubungan signifikan dengan jenis pengobatan (r = 0,208; p = 0,020). Di seluruh status kesehatan umum, skala fungsional, dan skala gejala, terapi hormonal dikaitkan dengan hasil QoL yang lebih baik daripada kemoterapi.* ***Kesimpulan:*** *Terdapat perbedaan signifikan dalam QoL pasien kanker payudara yang menjalani terapi hormonal dibandingkan dengan kemoterapi. Terapi hormonal secara keseluruhan memberikan QoL yang lebih baik.*

Kata kunci: *Kualitas Hidup, Kanker Payudara, Terapi Hormonal, Kemoterapi*

I. INTRODUCTION

Breast cancer is the most commonly diagnosed cancer and the leading cause of death among women worldwide, with an average of 1.7 million new cases and 521,900 deaths annually, accounting for 25% of all cancer cases and 15% of cancer-related deaths among women. Approximately 70% of all breast cancer cases are hormone-sensitive and may respond to endocrine therapy[1]. The success rate of breast cancer management is influenced by standard medical therapy, complementary treatments, lifestyle changes, and supportive activities to control breast cancer symptoms. Two essential objectives to improve treatment productivity incorporate drawing out survival and moving forward health-related quality of life (HRQoL). The concept of making strides quality of life (QoL) as a clinical result for breast cancer patients speaks to a multidimensional approach, reflecting patients' subjective viewpoint on how their condition and treatment influence the physical, mental, and social angles of day by day life[2].

Evaluating HRQoL during treatment is crucial. The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire C30 (EORTC QLQ-C30) evaluates physical, functional, and role-related conditions, as well as follow-up assessments. Adjuvant therapy for breast cancer involves systemic treatment to eradicate microscopic tumor cells potentially remaining in the body. This therapy is administered following primary therapy to reduce the risk of long-term disease complications. Adjuvant therapy includes chemotherapy, endocrine therapy, targeted drugs such as trastuzumab, radiation therapy, or a combination of treatments. Decisions regarding treatment are based on cancer stage, type, the presence of hormonal receptors and HER2/neu, and the patient's overall health. Hormonal therapy reduces the risk of breast cancer recurrence by up to 40% and mortality by approximately one-third. However, despite its clinical efficacy in preventing recurrence, a significant number of breast cancer survivors do not adhere to hormonal therapy regimens. Approximately 50% of ladies take less than 80% of the endorsed measurements, and about 50% cease treatment by the fifth year of medicine. This leads to expanded breast cancer repeat and mortality. Subsequently, tirelessness and adherence to hormonal treatment are considered basic determinants of disease-free survival. Adherence is characterized as the degree to which an individual's behavior adjusts with agreed-upon treatment suggestions, counting measurement, recurrence, and timing. Tirelessness alludes to the term of treatment from start to discontinuation[3]

Studies also explore factors influencing adherence and persistence behaviors, identifying sociodemographic, psychological, and clinical aspects as potential risk factors. Several studies have revealed that patients experience side effects from hormonal therapy, such as joint pain, hot flashes, night sweats, and fatigue, which negatively impact treatment adherence. This is often because the perceived side effects outweigh the perceived benefits of the treatment. Unlike unmodifiable sociodemographic and clinical aspects, side effects are a target for intervention, as effective management has the potential to improve long-term adherence to hormonal therapy and reduce treatment discontinuation rates[4].

The quality of life of breast cancer patients undergoing chemotherapy can vary depending on factors such as the duration of chemotherapy and patients' perceptions of its side effects. Chemotherapy has several effects that can impair functional status, including work, self- care, and familial or social maintenance, ultimately reducing the

quality of life. However, a study found that longer chemotherapy durations were associated with higher quality of life among breast cancer patients. Research involving 103 breast cancer patients undergoing chemotherapy at Dharmais Cancer Hospital found that the majority had a good quality of life (54.4%) and were adaptive to chemotherapy side effects (53.4%). Bivariate analysis showed a significant relationship between chemotherapy side effects and quality of life among breast cancer patients at Dharmais Cancer Hospital in 2023[5]. Assessing the differences in the quality of life of breast cancer patients undergoing hormonal therapy compared chemotherapy in Surgical Oncology Clinic of Dr. Moewardi Hospital is essential to evaluate the effectiveness of hormonal therapy and chemotherapy management in breast cancer patients.

I. METHOD

STUDY DESIGN

This cross-sectional study included a total of 240 breast cancer survivors treated at the Oncology Department of Dr. Moewardi Hospital, consisting of 120 patients undergoing chemotherapy and 120 patients receiving hormonal therapy. Eligible participants were breast cancer patients aged 18 years or older who were undergoing chemotherapy or hormonal therapy, provided informed consent, and completed the study questionnaire. Patients with a history of mental disorders were excluded from the study.

The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 (EORTC QLQ-C30) was used to assess quality of life, encompassing physical, psychological, and social functioning domains. The Summary Score was calculated as the average of 13 out of the 15 scales of the QLQ-C30, excluding the Global Quality of Life and Financial Impact scales. The formula used was as follows:

QLQ-C30 Summary Score = (Physical Function + Role Function + Social Function + Emotional Function + Cognitive Function + 100 − Fatigue + 100 − Pain + 100 − Nausea/Vomiting + 100 − Dyspnea + 100 − Sleep Disturbance + 100 − Loss of Appetite + 100 − Constipation + 100 − Diarrhea) / 13.

Quality of life was categorized as *poor* (<500), *moderate* (500–1000), or *good* (>1000).

STATISTICAL ANALYSIS

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 25.0 for Windows. Contingency correlation analysis was used to determine the strength of association between variables. A statistical power of 90% and a 95% confidence interval were applied, with a significance level set at $p < 0.05$. Bivariate analysis was conducted to compare the effects of hormonal therapy and chemotherapy on quality of life using the chi-square test. Multivariate analysis with logistic regression was performed to evaluate the relationship between variables.

ETHICAL CONSIDERATIONS

This study was reviewed and approved by the Research Ethics Committee of Dr. Moewardi Regional General Hospital.

II. RESULT

The characteristics of the study are shown in Table 1. Most of the patients were aged <49 years (97%), had a senior high school education (62.9%), were married or living with a partner (81.7%), had a monthly income <3 million rupiah (65%), had stage III (61.7%), had normal BMI (77.9%), had premenopausal status (75%) and had been detected for 2-3 years (40.8%) (Table 1). Overall, the categories of the study subjects showed no significant difference between the

category items between the two groups of types of procedures (p>0.05).

TABLE 1. DEMOGRAPHIC CHARACTERISTICS OF PATIENTS WITH BREAST CANCER INCLUDED IN THIS STUDY

Variable		Treatment						p -value
		Total		Hormonal		Chemoteraphy		
		N	%	N	%	n	%	
Age (years old)	≤49	97	40,4%	46	38,3%	51	42,5%	0.795
	50-59	84	35,0%	43	35,8%	41	34,2%	
	≥60	59	24,6%	31	25,8%	28	23,3%	
Education	≤ Junior High School	60	25%	28	23,3%	32	26,7%	
	Senior High School	151	62,9%	73	60,8%	78	65%	0.199
	≥University	29	12,1%	19	15,8%	10	8,3%	
Income (Rupiah)	>3 million	84	35%	46	38,3%	38	31,7%	0.279
	≤ 3 million	156	65%	74	61,7%	82	68,3%	
Stage	O atau I	0	0 %	0	0%	0	0%	0,199
	II	66	27,5%	39	32,5%	27	22,5%	
	III	148	61,7%	70	58,3%	78	65%	
	IV	26	10,8%	11	9,2%	15	12,5%	
Family History	Yes	36	15%	22	18,3%	14	11,7%	0.148
	No	204	88,3%	98	81.7%	106	88,3%	
IMT (Kg/m2)	Thin (<18.4)	44	18,3%	18	15%	26	21,7%	0,274
	Normal (18,5-25)	187	77,9%	96	80%	91	75,8%	
	Fat (>25.1	9	3,8%	6	5%	3	3,8%	
Menopause	Yes	60	25%	34	28,3%	26	21,7%	0,233
	No	180	75%	86	71,7%	94	78,3%	
Marriage	Not Married/ Divorced/ Separated	44	18.3%	16	13,3%	28	23,3%	0,45
	Married	196	81.7%	104	86,7%	92	76,7%	
Time of Detection	0–1 years	56	23,3%	32	26,7%	24	20%	0.391
	1–2 years	74	30,8%	34	28.3%	40	33,3%	
	2–3 years	98	40,8%	50	41,7%	48	40%	
	>3 years	12	8%	4	3,3%	8	6,7%	

Patients undergoing Hormonal Therapy obtained quality of life in good criteria is 116 patients (96.7%) and Moderate 4 patients (3.3%). While in chemotherapy, the results is 80 patients (66.7%) good criteria, 39 patients (32.5%) and 1 patient (0.4%) poor criteria. There is a significant difference quality of life in breast cancer patients undergoing hormonal therapy and chemotherapy with a value of p = 0.001 (p <0.05) seen in table 2.

TABLE 2. QUALITY OF LIFE IN BREAST CANCER PATIENTS UNDERGOING HORMONAL THERAPY AND CHEMOTHERAPY

	Variabel	Treatment				P value
		Hormonal Therapy		Chemotherapy		
		n	%	n	%	
QOL[a]	Good	116	96,7%	80	66,7%	0.001
	Moderate	4	3,3%	39	32.5%	
	Poor	0	0.0%	1	0,4%	

Description: a. ordinal data (Mann-Whitney test); b. nominal data (chi-square test/Fischer exact test); *significant at p<0.05

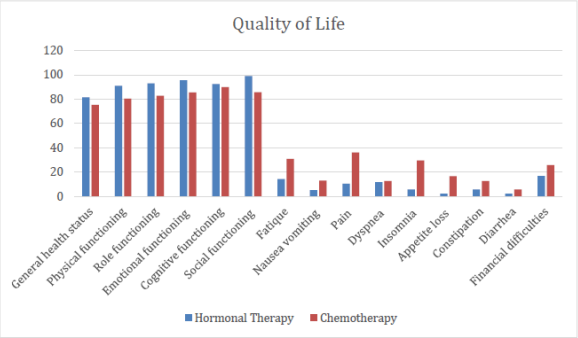
The correlation analysis of therapy with the quality of life in breast cancer patients was carried out using the eta correlation test, because treatment data is nominal and quality of life is shown by numerical data. The correlation analysis of therapy is shown in Table 3. The difference in quality of life between the two groups of hormonal therapy and chemotherapy has a significant impact on the value of Dyspnea complaints (r = 0.208; p = 0.020)

TABLE 3. QUALITY OF LIFE IN BREAST CANCER UNDERGOING HORMONAL THERAPY AND CHEMOTHERAPY BASED ON ITEM DESCRIPTIONS

QoL	Treatment Type				R	p-Value
	Hormonal Therapy		Chemotherapy			
	Mean	±SD	Mean	±SD		
General health status	81.3880	± 13.44	75.17	± 20.88	0.597	0.175
Functional Scales						
Physical functioning	90.99	± 9.71	80.47	± 18.60	0.508	0.336
Role functioning	92.89	± 9.26	82.68	± 20.45	0.374	0.307
Emotional functioning	95.56	± 8.57	85.47	± 12.17	0.464	0.434
Cognitive functioning	92.33	± 13.42	89.79	± 12.99	0.281	0.096
Social functioning	98.89	± 14.08	85.69	± 16.85	0.524	0.475
Symptom Scales/item						
Fatigue	14.07	± 12.20	30.72	± 23.57	0.511	0.389
Nausea vomiting	4.99	± 11.55	12.96	± 19.06	0.361	0.246
Pain	10.35	± 18.34	36.11	± 25.14	0.620	0.513
Dyspnea	11.67	± 19.87	12.50	± 21.20	0.208	0.020*
Insomnia	5.55	± 15.18	29.44	± 30.00	0.476	0.450
Appetite loss	2.22	± 8.35	16.52	± 24.61	0.204	0.196
Constipation	5.747	± 12.64	12.50	±16.46	0.362	0.357
Diarrhea	2.22	± 8.35	5.56	± 15.18	0.146	0.135
Financial difficulties	16.67	± 18.84	25.55	± 28.58	0.256	0.181
QoL value	1197.71	± 73.23	1062.92	± 166.87	0.993	0.465

Description: Eta correlation test, significant at p<0.05

The difference in the average quality of life items is shown in Figure 1. All of items of quality of life consist of general health status, functional scales and symptom scales shows that quality of life in hormonal therapy is better than chemotherapy. The symptom scale shows fewer complaints in the hormonal therapy.



Bivariate and multivariate analysis of variables related to improving the quality of life of breast cancer patients in this study took data that had a p value <0.250 from the table above, namely stage, family history, menopause and type of action. Bivariate and multivariate analysis of variables related to improving the quality of life of breast cancer patients can be seen in table 4 as follows

Based on the Table 4, it is known that in the bivariate analysis, the Type of treatment (OR=14.50; p=<0.001) is significantly

related to the quality of life of breast cancer patients, where patients with hormonal therapy have a 14.5 times greater chance of experiencing a better quality of life compared to chemotherapy. Meanwhile, Stage, Family History and Menopausal Conditions are not significantly related to the quality of life of breast cancer patients with a p value> 0.05, thus the type of action is the dominant variable related to differences in the quality of life of breast cancer patients.

TABLE 4. BIVARIATE AND MULTIVARIATE ANALYSIS OF VARIABLES RELATED TO IMPROVEMENT IN QUALITY OF LIFE OF PATIENTS WITH BREAST CANCER

Variable	Bivariate				Multivariate			
	OR	95%CI		P	OR	95%CI		P
		Lower	Upper			Lower	Upper	
Stage (0,I,II vs III, IV)	1.5	0.72	3.531	0.247	0.381	0.029	4.976	0.462
Family History (No vs Yes)	1.7	0.824	3.507	0.148	0.662	0.128	3.42	0.622
Menopause (No vs Yes)	1.43	0.794	2.575	0.233	4.65	0.271	79.869	0.290
Treatment (Hormonal Vs Chemotherapy)	14.5	4.991	42.128	0,001*	15,3	0.22	0.195	0.001*

Description: Bivariate analysis (chi-square test/Fischer exact test); multivariate analysis (logistic regression test); significant at p<0.05

III. DISCUSSION

Hormonal therapy and chemotherapy on quality of life is important in order to assess the effects of therapy on the breast cancer patient's condition. This is important because the success of therapy is not only measured through objective tumor eradication but also quality of life. The use of hormonal therapy in breast cancer patients on our research is better in quality of life than in patients undergoing chemotherapy. Patients undergoing hormonal therapy are 14.5 times more likely to have a better quality of life than chemotherapy. Compared to chemotherapy, Hormonal therapy is associated with fewer side effects, commonly used to treat metastatic breast cancer or with estrogen receptor (ER) positive or progesterone receptor (PgR) positive. Chemotherapy is used to treat ER negative or PgR negative disease and disease that is unresponsive to Hormonal Therapy[3]. Research conducted by adamowick on 351 patients with advanced metastatic breast cancer treated in the period January 2010 to December 2016. There was a significant relationship between the type of therapy (hormonotherapy, chemotherapy, targeted therapy) and women's general average quality of life as measured by the EORC-QLQ-C30 questionnaire. In addition, statistically significant differences were found in some somatic complaints (QLQ-BR23 symptom scale) depending on the type of therapy performed. Hormone therapy and trastuzumab therapy improved the quality of life of patients treated in clinical practice[6].

Cross-sectional study conducted by Gutierez Humezo with data collection of 129 female breast cancer patients (63 chemotherapy and 66 hormonal therapy). Significant differences were found within groups regarding Quality of Life (QoL) in functionality, symptomatology (fatigue and nausea) and coping strategies. Group receiving chemotherapy, the Functionality Scale and symptoms were more variable on QoL. For patients receiving hormone therapy, fatigue was a symptom that often contributed to QoL. Results confirm that women undergoing chemotherapy are more physically and psychologically affected. Fatigue is a symptom that affects QoL and role functioning. Supportive activities and reduction of psychological symptoms will affect the physical condition[7,8].

Chemotherapy is the treatment most associated with decreased QoL, especially in the first cycle where women experience the uncertainty of their symptoms such as weakness, vomiting, fear of hair loss, and so on. The threat by chemotherapy sessions makes women likely to apply maladaptive coping strategies such as avoidance, negative thoughts and emotional suppression[9]. After surgery, hormone therapy is another medical treatment that is considered to have fewer side effects than chemotherapy and radiotherapy. It consists of administering active ingredients that act directly on estrogen and is usually given to prevent recurrence, slow the progression of breast

cancer at the earliest diagnosis and for women who are in remission. As the condition of women undergoing these treatments centers on the behavior of sex hormones, the onset of early menopause and associated physical symptoms such as hot flashes, fatigue, sweating, insomnia, and relationship problems due to decreased libido are very common, making fatigue the most relevant physical symptom in explaining low QoL in patients undergoing chemotherapy with adjuvant radiotherapy and hormone therapy. Furthermore, fatigue and nausea tend to be very severe symptoms for patients and exacerbate fear prior to the start of any cancer treatment, especially in chemotherapy, affecting how women perceive their declining health and QoL[10].

In this study, the physical function of hormonal therapy was better than chemotherapy although with insignificant results. Research conducted by yasemin benderli in 109 patients with breast cancer who received adjuvant radiotherapy and hormonal therapy that physical function will be significantly impaired and associated with future expectations, sexual life, sexual satisfaction, hair loss and arm-related. As for the symptom scale in the study constipation on hormonal therapy[11]. In a study conducted by Carson et al. (2002) the percentage of patients who experienced side effects from chemotherapy underwent hair loss as much as (89%), nausea (87%), fatigue (86%), vomiting (54%), sleep disturbances (46%), weight gain (45%), mouth ulcers (44%), tingling (42%), eye disorders (38%), diarrhea (37%), constipation (19%), redness of the skin (18%) and weight loss (13%). Side effects of hormonal therapy not only reduce the quality of daily life but also have several psychological and physical implications. Some of the most common side effects are joint pain/osteoporosis, depressive episodes, hot flashes, sleep difficulties, fatigue, anxiety, and weight-related problems[12]

Overall quality of life is negatively impacted after 2 years of diagnosis in the general population. Significant negative impact on role, cognitive and social functioning, as well as pain, dyspnea, fatigue, body image, systemic therapy side effects, constipation and breast and arm symptoms. Young age, comorbidities, smoking, low income, and anxiety/depression were also associated with reduced Quality of Life. In the overall cohort, at 2 years, statistically significantly worse Quality of Life was observed among patients treated with Hormonal Therapy vs non HT for role function and social function, whereas on chemotherapy when compared to no HT negatively impacted physical function and cognitive function. HT in premenopausal patients had no impact on any functional domain[13].

A systematic review study conducted by Biparva et al based on publications in the UK from January 2000 to October 2021 from a total of 9012 patients with BC, the QoL score was calculated by EORTC QLQ-C30. Regarding treatment-related factors, QoL was negatively affected by advanced stages of the disease, symptoms and side effects. Chemotherapy is significantly associated with poorer QoL in women with BC. These patients are more likely to be diagnosed with advanced stage cancer and might experience higher levels of exhaustion, pain, stress and probably other rigorous psychological side effects, consequently decreasing their QoL[14]. The most common adverse reactions of chemotherapy or hormonal therapy are hematological toxicity, including neutropenia, thrombocytopenia, and anemia, as well as peripheral neuropathy, vomiting, and diarrhea. Less common side effects are: infections, hair loss, fatigue, and constipation. Overall toxicity was not associated with the general condition. The incidence of diarrhea, neutropenia, thrombocytopenia, anemia, and frequency of hospitalization were higher in patients treated with chemotherapy. The frequency of dizziness and hot flashes was higher in the case of hormone therapy, while peripheral

neuropathy and lower limb edema occurred more frequently in patients receiving trastuzumab[15].
Both chemotherapy and endocrine therapy have been shown to produce tumor responses in women with metastatic breast cancer. The greater toxicity of chemotherapy is reflected in the RCT study conducted by the Cochrane Breast Cancer Group Specialised which found no difference in overall survival effects published involving six trials involving 692 women[16]. Studies on hormonal treatment have shown that antitumor efficacy is the same. The use of some chemotherapies is sometimes associated with worsening QoL. According to Ramirez et al., the presence or absence of several subjective parameters, such as dry mouth, high levels of psychological distress, lack of energy before treatment, and shortness of breath can be used to help doctors decide which patients should or should not be offered chemotherapy. It is widely believed that there is a correlation between objective and subjective responses[17].

Cancer stage does not significantly affect the difference in quality of life of patients with hormonal therapy and chemotherapy, but has a tendency to be 1.5x better in quality in patients with early stages (0, I and II) compared to stages III and IV. Faroughi et al in 2023 involving 218 breast cancer patients at the Valiasr International Hospital Oncology Center in Tabriz patients were more dominant in stages I and II (86%)[18]. Stage and time of diagnosis, the initial stage of adjuvant chemotherapy treatment, several months immediately after the completion of adjuvant treatment are the adjustment period for quality of life in breast cancer patients[19]. Research conducted by lacerda lima in 2017 conducted a cross-sectional study of 199 women with breast cancer assessing the quality of life EORTC QLQ 30, The average global health status was 32.04. On the functional scale, cognitive function scored the highest at 60.47, while role function scored the lowest at 12.48. Fatigue showed the highest mean score of 69.57. Scores for global health status and functional scales decreased along with stages II, III and IV[20]. Another study by Ferreira that 2 years after diagnosis, patients with breast cancer experienced a decrease in C30-SumSc by 27.8% global health status, 38.4% severe cognitive dysfunction, 51% severe pain, 45.5% severe dyspnea and 33.6% severe fatigue[13].

Breast cancer patients with no family history had 1.7 times better potential quality of life in this study than those with family history. Family history of breast cancer is a major factor that increases the risk of developing breast cancer. Breast cancer incidence rates are significantly higher in patients with a family history regardless of age. This relationship is driven by epigenetic changes as well as environmental factors that act as potential triggers. family history of breast cancer, 5%-10% of cases are associated with autosomal gene inheritance. The probability of genetic inheritance increases if there are multiple affected relatives and the cancer occurs at a younger age. A family history of ovarian cancer especially characterized by BRCA1 and BRCA2 mutations may also lead to a greater risk of breast cancer. However, quality of life (QOL) for breast cancer survivors can be affected by a number of factors, including physical and mental health, such as anxiety, fatigue, sleep problems and body aches[21].

Menopause show a significant negative impact on the quality of life of women with breast cancer. Patients with breast cancer with non-menopausal status had 1.43 times better quality of life compared to breast cancer with menopause in this study. Menopausal symptoms in women with breast cancer have a significant negative impact on quality of life, with short- and long-term health consequences, Women with breast cancer especially younger women, experience more severe menopausal

symptoms than women without breast cancer. The spectrum of symptoms is similar to the age of menopause, a study of 843 Australian women showed that most women aged 50-69 years had persistent vasomotor, psychosocial, physical and sexual symptoms at 6 years post breast cancer diagnosis despite stopping adjuvant endocrine therapy[22].

Patients with hormonal therapy experience better quality of life than chemotherapy both from global health status, functional scale and symptom scale. In this study, it was found that Dyspnea was a symptom that showed a significant difference between patients who received chemotherapy compared to hormonal therapy. This is possible because shortness of breath is a psychological experience caused by perceptions of disease, metastatic clinical conditions and lack of social support[23]. Research by Ferreira in 2019 on the subjects of 4262 QLQ-C30/BR23 breast cancer patients in the CANTO trial, after 2 years post-action obtained results: 37.2% premenopausal and 62.8% postmenopausal; 81.9% received hormonal therapy and 52.8% CT. Hormonal therapy negatively impacted social role and function, pain, insomnia, systemic therapy side effects, breast symptoms and more limited emotional function and perspective recovery was better than chemotherapy. Chemotherapy was associated with decreased physical and cognitive function, dyspnea, financial difficulties, body image, and breast symptoms[13].

Dano et al conducted a study on 120 patients at the University Hospital Center Aristide Le Dantec in Dakar, West Africa, from July 2017 to February 2018. The mean age was 45 years with half of the patients having metastasis, T3- T4 size and lymph node involvement. It was found that nausea and vomiting were the main presenting complaints. These HRQoL-related problems included emotional stress, sleep problems and fatigue, especially those under 65 years old. Overweight people had poorer Global Health Status/QoL and physical functioning, although living with others improved physical functioning, reducing dyspnea and pain. Long-term care may involve specialized screening for cancer patients at risk of psychosocial impairment[24]. Lewandowska's 2020 study revealed that quality of life screening is needed to assess the psychological, social and spiritual well-being of cancer patients, including disease symptoms and treatment effects. The study involved 800 cancer patients, 60% of whom were women and 40% men undergoing chemotherapy. Although 28% of cancer patients were able to perform usual physical activities, 81% reported self-care and anxiety problems[25]. Increasing perceived benefits in therapy as a functional cognitive emotion regulation strategy that involves reappraisal by generating positive interpretations of therapy despite side effects needs to be taught to patients[26].

IV. CONCLUSION

There is a significant difference in the quality of life of breast cancer patients undergoing hormonal therapy and chemotherapy. Breast cancer patients with hormonal therapy have better quality of life compared to chemotherapy.

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