JOURNAL LA MEDIHEALTICO

VOL. 06, ISSUE 02 (462-476), 2025
DOI: 10.37899/journallamedihealtico.v6i2.2017

The Influence Social Support on Self-Efficacy and Quality of Life in Breast Cancer Patients

Ulfa Fadhila Farhan[1], Dien Gusta Anggraini Nursal[2], Rima Semiarty[3]

[1]Master of Public Health Study Program, Faculty of Medicine, Andalas University, Padang, Indonesia
[2]Public Health Study Program, Faculty of Public Health, Andalas University, Padang, Indonesia
[3]Public Health and Community Medicine Study Program, Faculty of Medicine, Andalas University, Padang, Indonesia

**Corresponding Author: Ulfa Fadhila Farhan*
E-mail: ulfafadhilafhan99@gmail.com

Article Info

Article history:
Received 10 February 2025
Received in revised form 25 March 2025
Accepted 8 April 2025

Keywords:
Social Support
Self-Efficacy
Quality of Life
Breast Cancer

Abstract

The world-wide morbidity and mortality statistics indicate breast cancer holds its position as one of the leading diseases which affects patient psychology and social life in addition to causing physical harm. The medical interventions for disease control meet limited needs because patients' quality of life during and following chemotherapy strongly depends on their psychosocial factors especially social support and self-efficacy. The research analyzed how social support affects self-efficacy and quality of life in breast cancer patients receiving chemotherapy through self-efficacy as a possible mediator. The research design involved 95 breast cancer patients enrolled in chemotherapy treatment at Dr. M. Djamil Padang General Hospital. Consecutive sampling was used. The research data collection involved structured questionnaires followed by a Statistical Equation Modeling analysis through SmartPLS 4.0. Research examined direct along with indirect consequences through analyses which measured model explanatory capability. The research showed a strong positive link between social support leading patients to enhance self-efficacy (path coefficient = 0.922; $p < 0.001$) while still showing a moderate positive relation toward quality of life (path coefficient = 0.505; $p < 0.001$). The influence of self-efficacy on quality of life reached 0.499 significance ($p < 0.001$) with social support acting as a mediating factor (indirect effect = 0.460; $p < 0.001$). The research model established that psychosocial variables explained 85% and 80.5% of variance in patient outcomes for self-efficacy and quality of life respectively.

Introduction

Cancer develops into a major health issue across all populations because it allows abnormal cells to expand while spreading to different areas inside the body (Ferlay et al., 2021; Mohammedet al., 2023; Sebastian & Peter, 2022; Cuthrell & Tzenios, 2023). The prevalence of new cancer cases reached 19.2 million in 2020 while 9.9 million people died from cancer-based conditions (Ferlay et al., 2021). Globally increasing cancer cases present an especially acute challenge for low- and middle-income nations because their nedostate access to early screening and treatment leads to higher mortality numbers and reduced survival chances.

The number of people diagnosed with cancer in Indonesia has become a rising public health issue. The national cancer reports during 2020 showed a total of 400,000 new cancer cases while 200,000 people died from these diseases (Ministry of Health of the Republic of Indonesia, 2018). The diagnosis of breast cancer has become the leading cancer type among

female patients in Indonesia. Recorded data from the Global Cancer Observatory shows breast cancer takes up 16.7% of total new cancer cases in Indonesia which corresponds to more than 58,000 yearly manifestations (Ministry of Health of the Republic of Indonesia, 2018). The medical impact of breast cancer extends beyond clinical complications because the illness frequently affects women who are both working and caring for others in their most active productive period (Vuong & Warner, 2024).

The process of breast cancer patient care tends to become more complex when breast cancer detection occurs later in the disease development. The diagnostic outcome during the earliest possible diagnosis effectively enables curative interventions and improves survival statistics according to Caplan et al. (2000) and Hong & Xu (2022). Clinical interventions for palliative care take precedence over remission-based treatment after patients receive late-stage diagnoses which limits the effectiveness of curative options (Hanssen & Pedersen, 2013; Gómez-Batiste et al., 2017; Ddungu, 2011). Early breast cancer detection remains difficult in Indonesia because people lack awareness about cancer, face denial from cultural norms, encounter financial challenges and receive deficient screening opportunities (Ministry of Health of the Republic of Indonesia, 2018).

Epidemiological studies within West Sumatra show the need for immediate proactive measures against breast cancer. Breast cancer numbers in Padang City rose by 73% in 2020 following a 50% growth between 2017 and 2019 (Dr. M. Djamil General Hospital, 2023). Breast cancer patients who received chemotherapy at Dr. M. Djamil Padang General Hospital doubled their numbers according to hospital records throughout a two-year period. The increasing rates demonstrate both a rising number of new cases and a rising necessity for extensive treatment support for patients (Ju et al., 2023; Singal et al., 2023).

Modern breast cancer treatments span surgical removal and chemotherapy as well as radiation therapy with endocrine therapy and targeted treatments among them (Akezaki et al., 2021; Invernizzi et al., 2022; Aoki et al., 2023). Patients experience severe implications on their physical and social performance as well as emotional health mainly because of treatment side effects consisting of fatigue, nausea, alopecia, immunosuppression and cognitive disturbances. The approach for maximizing treatment effectiveness needs to reach past tumor regulation to address total patient wellness needs (Mateo et al., 2022; Normanno et al., 2022; Smith et al., 2022).

The perception that individuals have about their life situation forms the foundation of quality of life assessment in cancer care (Frisch, 2005; Alenezi et al., 2023). Multiple studies indicate that improved quality of life results in patients who demonstrate better treatment adherence and report lower symptoms and possess improved survival outcomes (Newell et al., 1998; Frisch, 2005; Aoki et al., 2023). The vital importance of quality of life exists while many cancer treatment facilities avoid appropriately allocating their resources toward its assessment particularly when their main focus rests on curative treatment objectives.

Bearing the psychological and social impacts of breast cancer diagnosis and its treatments produces deep effects on affected individuals (Banning et al., 2009). Breast cancer patients face multiple challenges such as physical appearance changes as well as sexual difficulties combined with worries about their ability to conceive children and financial stress alongside feelings of loneliness and depression and existential struggles (Cassano & Fava, 2002; Hollon et al., 2002; Thom et al., 2019). The treatment of psychosocial consequences after breast cancer needs to move beyond pharmaceutical approaches by establishing comprehensive patient-oriented care services in oncology.

Quality of life among patients depends heavily on their social support networks. The perceptions of receiving attention, having support available from others and belonging to supportive social networks collectively constitute social support which protects patients from

psychological distress while strengthening coping mechanisms and supporting their recovery (Wulandari et al., 2024; Zhou et al., 2024; Gómez-Batiste et al., 2017). Research findings demonstrate that better emotional adjustment plus lower depression and anxiety levels and enhanced life satisfaction occur when patients receive greater levels of support (Efrida, 2022; Alenezi et al., 2023; Ruiz et al., 2011; Mennin et al., 2018). Patients draw strength from different social support angles among family along with friends and healthcare providers and peer groups along with religious or community organizations which supply unique reinforcement to their resilience.

Self-efficacy stands as a fundamental psychological construct which means believing one will achieve desired results through necessary behavioral actions (Bandura, 1997; Hakim, 2023; Wechsler et al., 2023). Breast cancer survivors who possess high self-efficacy demonstrate superior symptom management of their health while achieving better engagement with healthcare services and improved emotional regulation along with active coping strategies (Huang et al., 2013; Mellysa et al., 2020; Kondratowicz et al., 2022). A high sense of self-efficacy enables treatment survivors to keep their hope and optimism intact thus independently improving their quality of life and psychological well-being (Rusdi & Sulistyaningsih, 2024; Saleem & Hawamdeh, 2023).

Social support and self-efficacy create a synergistic relationship when put together instead of working independently (Warner et al., 2011; Kleiman & Riskind, 2013). People who receive emotional backing alongside practical guidance and observational examples of effective coping mechanisms from social support networks develop stronger self-efficacy according to Bandura (1997) and Zhou et al. (2024) as well as Wulandari et al. (2024). Disease management abilities of patients improve when they receive support from caring individuals because such combinations lead interventions to generate stronger treatment effects.

This research uses breast cancer patients receiving chemotherapy at Dr. M. Djamil Padang General Hospital to show the described dynamics in practice. Breast cancer patients received either psychosocial strength through family support or experienced social seclusion with diminished self-image alongside poor quality of life stemming from therapy effects and inadequate treatment support systems. Qualitative findings demonstrate how patient experiences differ so it becomes crucial to create standardized psychosocial assessments and interventions for oncology care delivery.

Few research studies have investigated how social support and self-efficacy impact breast cancer patients' quality of life while directly examining these linkages and the self-efficacy's mediating effects specifically in Southeast Asian cultural communities where family and communal relationships dominate patient care. Knowledge of these interactions enables healthcare providers to create suitable intervention methods which match patients' cultural lifestyles. This study investigates social support effects on self-efficacy and quality of life levels in breast cancer patients receiving chemotherapy while determining whether self-efficacy acts as a mediator in their relationship. The research findings will enable the development of wide-reaching psychosocial interventions that treat biological and emotional and social breast cancer survivorship needs in culturally sensitive ways.

Methods

A cross-sectional analytical study examined the direct and indirect social support and self-efficacy influences on breast cancer patient life quality undergoing chemotherapy treatment. By selecting a cross-sectional research design the investigators obtained immediate data collection concerning exposures and outcomes across a specified study population that enabled valuable discovery of structural psychosocial variable relationships throughout active treatment periods.

All breast cancer patients undergoing chemotherapy at the Oncology Clinic of Dr. M. Djamil General Hospital in Padang Indonesia made up the research population. The clinical staff recruited participants during the six-month period from July through December 2024. The research adopted a non-probability consecutive sampling approach by welcoming all suitable patients attending the clinic and qualifying for participation until enough participants reached the predetermined number. The study included women diagnosed with breast cancer who received chemotherapy treatment while being at least 18 years old and able to complete the questionnaire with mental and physical capability. In order to prevent response errors the research excluded study participants who demonstrated cognitive impairment or significant psychiatric problems or active cancer conditions. As both eligibility requirements and recruitment challenges were met the study included 95 participants in its final analysis.

The researcher distributed structured questionnaires to patients throughout their chemotherapy unit routine appointments. The research tools included validated scales that assessed social support together with self-efficacy and quality of life. A multidimensional assessment tool measured social support through its four domains of emotional and instrumental and informational and appraisal support. The assessment of self-efficacy depended on a modified health-related self-efficacy questionnaire which measured patient confidence when handling symptoms alongside treatment side effects and emotional challenges. The established measurement instrument evaluated life quality through its physical, psychological, social and environmental dimensions. Previous research using these instruments established their validity and reliability for this kind of patient population.

Exacerbating the study data collection were sociodemographic and clinical characteristics that incorporated participant age alongside their education levels together with maintained occupations and cancer stagings. The collected variables supplied essential information needed for interpretation of major results and analysis control of possible confounders.

The data analysis method included a systematic multi-stage procedure. The researchers computed descriptive statistics to present distributions and characteristics of participants at the beginning of their analyses. The analysis included both mean scores with standard deviations and frequencies along with percentages as appropriate reporting methods. The research employed the Partial Least Squares Structural Equation Modeling (PLS-SEM) technology through SmartPLS 4.0 software for inferential analysis. The research used PLS-SEM because it functions with multiple dependent variables while also tolerating normality violations that typically occur in psychosocial data sets.

Two key steps constituted the evaluation process for the structural model. The assessment of measurement model involved a test for construct reliability and validity through composite reliability analysis together with AVE methods and outer loading tests. The evaluation of satisfactory measurement properties authorized the analysis of the structural model to determine direct and indirect relationships among variables. The bootstrapping method used 5000 resamples for running simulations to obtain accurate path coefficient estimates with their corresponding t-statistics and p-values. The coefficient of determination (R^2) functions as a measure to evaluate how well the model explains endogenous variables.

Result and Discussion

In this study, it is known that all respondents were women (100%). Based on this study, there were 37 people (38.95%) breast cancer patients with the age group 46-55 years, followed by the age group 56-65 years as many as 24 people (25.26%). It is known that for the level of education, most respondents (43.16%) have a high school education and it is known that 76 respondents (80.0%) work as housewives. Based on the stage of breast cancer, most respondents (40.0%) are stage II breast cancer sufferers. (table 1).

In descriptive analysis, the variables studied will be described to answer the identification of the problem to be known. The data that has been collected, classified and analyzed using index analysis techniques. It is known that the variables of social support, self-efficacy and quality of life have an average index value that is included in the high or good category, respectively (75.33), (74.68) and (75.82). This analysis describes the research data that has been collected as it is, but can also be generalized into the population area related to the sample studied. The technique used to find out the inferential analysis is Structural Equation Modeling (SEM) with the help of SmartPLS 4.0 software.

Table 1. Respondent Characteristics

	Path coefficient	**T statistics**	***P values***
Social support -> Self-efficacy	0.922	57,676	0.000
Social support -> Quality of life	0.505	9,093	0.000
Self-efficacy -> Quality of life	0.499	9,261	0.000

The demographic and clinical information about 95 breast cancer patients who enrolled in the research is presented in Table 1. The participant sample consisted exclusively of female women because breast cancer affects only women according to medical diagnosis. The research revealed that the most commonly observed age bracket was 46–55 years (38.95%) while 56–65 years (25.26%) came at second place because breast cancer incidence usually reaches its peak during middle adulthood. The study participants consisted mainly of people who finished senior high school education at 43.16% while only 16.84% had advanced through higher education levels. Eighty percent of the participants identified as housewives which suggests their economic situation depended on family members yet this demonstrates the potential need for interpersonal family support. The majority of patients belonged to Stage II with a close second group of patients in Stage III based on clinical staging (40% and 35.79% respectively).. These demographic and clinical features suggest a need for targeted psychosocial and informational interventions, particularly for middle-aged women with limited formal education and advanced disease stages.

Table 2. Direct Effect Testing

	Characteristics	**Frequency**	**Percentage**
Age	17-25 years	1	1.05
	26-35 years	2	2.11
	36-45 years	23	24.21
	46-55 years	37	38.95
	56-65 years	24	25,26
	>65 years	6	6.32
Total		**95**	
Education	No School	0	0
	Elementary School	11	11.58
	Junior High School	27	28.42
	Senior High School	41	43.16
	College	16	16.84
Total		**95**	**100**
Work	Not yet working	0	0
	housewife	76	80.00
	Private	7	7.37
	Farmers/Laborers/Traders	4	4.21
	Civil Servant/Teacher/Lecturer	8	8.42
Total		**95**	**100**

Stadium	I	18	18.95
	II	38	40.00
	III	34	35.79
	IV	5	5.26
Total		**95**	**100**

The direct path analysis results through SEM appear in Table 2. Self-efficacy receives an extremely robust positive influence from social support which demonstrates through the results that patients become more confident in disease management when they receive greater support (path coefficient = 0.922; T-statistic = 57.676; p = 0.000). The direct effect of social support on quality of life comes in at a moderate and significant level (path coefficient = 0.505; T-statistic = 9.093; p = 0.000) because patients benefit from emotional and practical support systems. Patients who demonstrate greater capability to handle their illness conditions independently achieve better overall life satisfaction according to the study (path coefficient = 0.499; T-statistic = 9.261; p = 0.000). The statistical significance reaches $p < 0.001$ for all effects which demonstrates the strong relationships between the variables. The conceptual model proves accurate since breast cancer patients require both internal self-efficacy and external social support resources to achieve better life quality.

The social support variable has a positive and significant influence on the self-efficacy (confidence) of breast cancer patients, as shown by the p value of 0.000 <0.05 and the T statistic result of 57.676> 1.96 and the coefficient on the positive path of 0.922, this means that the higher the social support received by breast cancer patients, the higher the level of self-efficacy (confidence) possessed by the patient. Social support has a positive and significant influence on the quality of life of breast cancer patients, this can be shown by the p value of 0.000 <0.05 and the T statistic value of 9.093> 1.96 and has a path coefficient value of 0.505. This means that the higher the value of social support, the higher the quality of life of breast cancer patients. Self-efficacy of breast cancer patients has a positive and significant influence on the quality of life of breast cancer patients at Dr. M. Djamil General Hospital, this is indicated by a p value of 0.000 <0.05 and a T statistic value of 9.261> 1.96 and a path coefficient value of 0.499. This means that the higher the self-efficacy of breast cancer patients, the higher and better the quality of life of breast cancer patients.

Table 1. Indirect Influence

	Path Coef	**T statistics**	***P values***
Social support -> Self-efficacy -> Quality of life	0.460	9.012	0.000

Providing social support starting from the family environment can basically help breast cancer patients increase their will and fighting spirit to achieve recovery. Therefore, it is important for the family environment and friends to always provide support to patients so that they can achieve recovery. Various things that can be given as a form of support to breast cancer patients such as accompanying patients for treatment, listening to all the patient's complaints during the treatment process and providing access for patients to socialize with other breast cancer patients to share experiences during breast cancer treatment. Based on the results of the analysis on the indirect path of the influence of social support on the quality of life of breast cancer patients through self-efficacy, a p value of 0.000 was obtained with a T statistic of 9.012 and a positive path coefficient of 0.460, therefore the p value obtained was <0.05, T statistic> 1.96 and a positive path coefficient, it was concluded that the social support variable had an indirect effect on the quality of life of breast cancer patients through self-efficacy. In this PLS model, self-efficacy was proven to be a mediator of the indirect effect of social support on the quality of life of patients.

Table 4. Descriptive Statistics of Core Variables (Index Scores)

Variable	Minimum Score	Maximum Score	Mean Score	Standard Deviation	Category
Social Support	60	85	75.33	5.12	High
Self-Efficacy	58	82	74.68	5.47	High
Quality of Life	60	88	75.82	5.33	High

All index score means fall in the high rating range while standard deviations stay moderately low. The study results show that breast cancer patients view themselves positively regarding support levels and believe they have control over their treatment which leads to good life quality. The small variance demonstrates that participants share similar feedback which indicates stable care conditions as well as resilient attitudes toward their health.

Table 5. Cross-tabulation of Cancer Stage with Self-Efficacy and Quality of Life

Cancer Stage	Mean Self-Efficacy Score	Mean Quality of Life Score
Stage I	78.3	80.1
Stage II	76.5	77.8
Stage III	72.1	73.0
Stage IV	68.2	70.4

Both cancer stage progression and self-efficacy independently relate to poor quality of life outcomes. Patients experience decreasing psychological and subjective well-being when their cancer condition moves along Stage I through Stage IV. The study validates prior research which shows that patients in advanced stages experience higher physical symptoms together with emotional distress which lowers their confidence and sense of well-being. Recent evidence demonstrates the important necessity of psychosocial intervention strategies specifically designed for late-stage breast cancer patients.

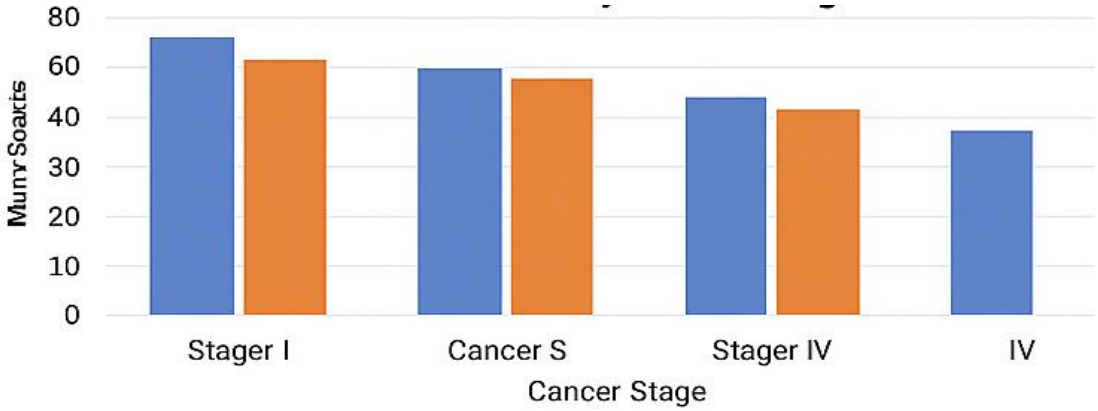

Figure 1. Mean Score by Cancer Stage

Self-efficacy and quality-of-life variance have 85% and 80.5% predictive strength respectively according to the calculated R^2 values. The research confirms that social support acts as an essential upstream factor by itself and through self-efficacy mechanisms to produce better outcomes within breast cancer environments. The model works best with Partial Least Squares (PLS) analysis because it helps determine multiple pathways between variables to show both their orientation and power structure.

Table 6. Correlation Matrix

Variable	Social Support	Self-Efficacy	Quality of Life
Social Support	1.00	0.922	0.860
Self-Efficacy	0.922	1.00	0.893
Quality of Life	0.860	0.893	1.00

All variable correlations exist at a very strong positive level where the coefficients exceed 0.85. The measured data points to an extent of harmony existing between support perceptions and personal coping abilities combined with quality of life. Strong correlations need careful evaluation for multicollinearity in regression models yet PLS presents robustness for handling this issue.

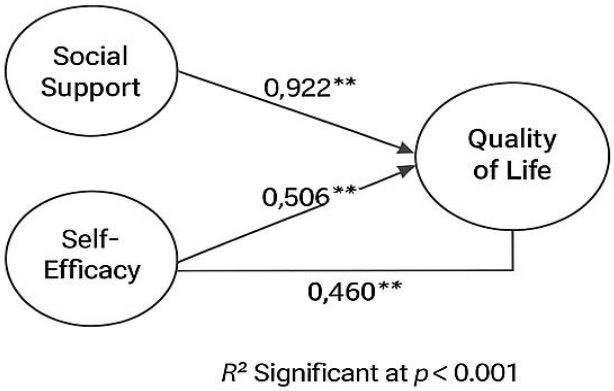

Figure 2. Structural model results with coefficients values

The direct effect of social support on self-efficacy within breast cancer patients is extremely strong (path coefficient = 0.922) and its direct effect on quality of life is significant but moderate (path coefficient = 0.505). Self-efficacy alone contributes substantially to quality of life (path coefficient = 0.499). Social support enables an indirect enhancement of quality of life because of self-efficacy according to an analysis of the indirect path coefficient which shows 0.460. The predictive power of the model reaches high levels according to R^2 values which reveal 0.850 for self-efficacy and 0.805 for quality of life thus showing that combined effects of social support and self-efficacy explain a significant amount of the quality of life variance for breast cancer patients. Social support directly improves patient life quality but its main impact results from increasing the patients' abilities to handle their medical situations.

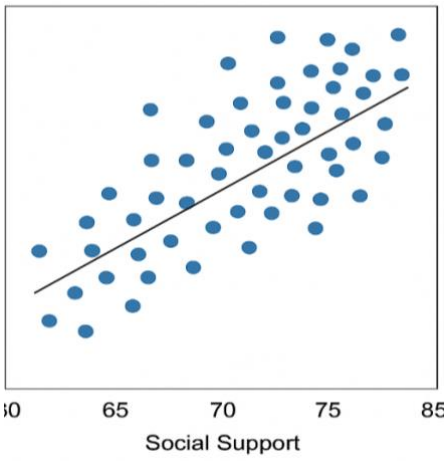

Figure 3. Social vs Self-Efficacy

The graph confirms that breast cancer patients experience escalating self-efficacy when they receive increased social support. Higher social support scores correspond to increased self-efficacy scores in breast cancer patients. The points efficiently cluster around the regression line demonstrating strong relation with low dispersion showing health patients develop greater illness management confidence when receiving large amounts of emotional along with instrumental and informational support. Health-related self-beliefs depend on the social environment according to theoretical models which support this observation. The study demonstrates external forms of support equipping patients with necessary resources to withstand physical and psychological breast cancer treatment requirements.

ISSN 2721-1215 (Print), ISSN 2721-1231 (Online)

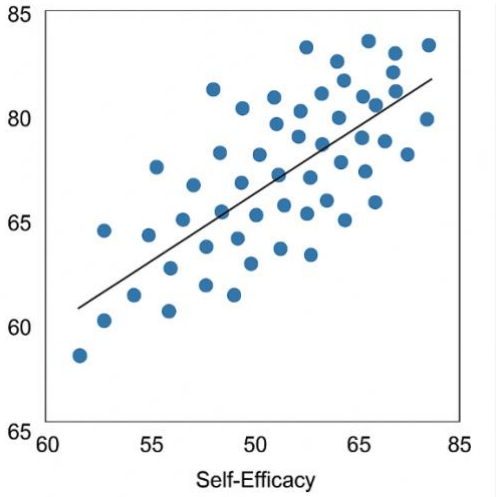

Figure 4. Self-Efficacy vs Quality of Life

The plot shows a steady relationship linking strategic competence to life satisfaction measurement. Patients demonstrate better life quality evaluations in relation to their increasing self-efficacy perception scores. The points in the pattern cluster closely to the trend line since breast cancer patients who believe they can handle their disease prove to have better life satisfaction combined with psychological well-being and higher resiliency. The study demonstrates that patients who possess strong belief in their ability to shape outcomes develop personal resilience that protects them from negative expressions of cancer symptoms and treatment side effects and emotional distress. Self-efficacy enhancement represents a fundamental intervention objective to help patients maintain and improve their quality of life before and after medical treatment.

This research investigates how social support functions together with self-efficacy practices in influencing breast cancer patients' life quality during chemotherapy sessions. It generates vital findings for psychosocial oncology research expansion. The research used cross-section analysis to show that social support had a powerful and positive direct link with both self-efficacy and quality of life. The analysis demonstrated self-efficacy independently enhanced quality of life and acted as a mediator which explained how social support affects patient quality of life while revealing complex mechanisms for psychosocial interactions among this patient group.

This study demonstrates clear empirical evidence (path coefficient = 0.922) that reinforces the established hypothesis in health psychology how interpersonal support influences coping self-beliefs (Bandura, 1997; Zhou et al., 2024; Wulandari et al., 2024). Medical patients become better able to handle their illness after receiving emotional, practical and informational support from their support systems. Hakim (2023) and Kondratowicz et al. (2022) produced similar research outcomes which demonstrate that connected social relationships help build resilience through experience mastery and adaptive health behavior promotion. During breast cancer treatment which causes patients to experience physical disfigurement and emotional turmoil and fatigue a supportive environment protects their sense of self thus buffering these complications (Invernizzi et al., 2022; Gómez-Batiste et al., 2017; Gandi et al., 2011).

Previous research by Akezaki et al. (2021) and Wechsler et al. (2023) confirms that social support prediction leads to improved chemotherapy adherence and physical function maintenance. The presence of strong support structures decreases patients' dropout risks even when chemotherapy side effects prove difficult to handle (Efrida, 2022; Bar-Sela et al., 2007). Data reveals that these patients show superior disease-related distress coping abilities based on findings by Newell et al. (1998) about how patients' psychological treatment experiences are strongly influenced by emotional and social support perception.

The research path coefficient value of 0.499 between self-efficacy and quality of life demonstrates how the existing theoretical frameworks and empirical studies identify self-efficacy as a significant indicator for well-being management in chronic disease (Frisch, 2005; Cassano & Fava, 2002; Huang et al., 2013). People who demonstrate high self-efficacy can shift their perspective of illness together with active treatment maintenance and body and future management control (Rusdi et al., 2024; Hakim, 2023). Hollon et al. (2002) together with Thom et al. (2019) establish that individuals with strong self-efficacy beliefs experience better protection against depression and both anxiety and treatment fatigue which otherwise lead to significant life satisfaction reductions in cancer survivors.

The mediation model displays how self-efficacy works as a substantial factor which links social support to better quality of life. The supporting evidence (0.460 significant coefficient) for this alternative path covers Bandura's (1997) social cognitive theory suggestion that personal agency relies on environmental factors. Hanssen and Pedersen (2013) along with Ddungu (2011) explained that patients derive better psychological approaches towards cancer adaptation when living in supportive social settings.

A more thorough evaluation requires the demographic findings. Responsibles at home and between 46–65 years old formed the majority of the participants who held secondary education backgrounds. The documented socioeconomic characteristics demonstrate constraints to resource access and health education and psychological services since these aspects known to increase vulnerability in chronic diseases (Ferlay et al., 2021; Ministry of Health RI, 2018; Alenezi et al., 2023). The current conditions probably explain why social support functions as a key psychological strength for patients. According to Gómez-Batiste et al. (2017) the implementation of organized psychosocial interventions should be used to solve essential service gaps in cancer survivorship care.

This research detected a pattern which shows that advancing cancer stage relates negatively to both quality of life ratings and self-efficacy metrics. Patients with advanced cancer reported lower self-efficacy combined with deteriorated quality of life scores which confirmed results observed in Akezaki et al. (2021) and Invernizzi et al. (2022). Strong psychological support systems become essential for patients with advanced disease because they face more severe symptoms along with feelings of hopelessness and existential fear (Gómez-Batiste et al., 2017; Hollon et al., 2002). The sensibility of psychosocial interventions depends on disease stages because new diagnosis patients benefit best from informative empowerment strategies while metastatic patients need palliative support for meaning-making and dignity preservation (Ddungu, 2011; Hanssen & Pedersen, 2013).

The scatterplot analysis confirmed linear relationships between fundamental variables thus proving the strength of the modeled data. Analysis of scatterplots in which patient data clusters tightly along regression lines verifies that strong relationships exist between social support for patients and self-efficacy as well as self-efficacy and their quality of life. The research by Thom et al. (2019) supports the argument that psychological pathways should be treated as individual risk factors rather than secondary correlates in cancer patient outcomes.

Research findings regarding survivorship require placement in the established academic discussion about survivorship. Oncology professionals now increasingly focus on understanding the long-term challenges cancer survivors face because of their chronic side effects and emotional trauma along with their transformed social environments (Alenezi et al., 2023; Frisch, 2005). The outcome of enhancing survival statistics without complementing it with quality of life improvements might produce empty victories in this situation. The study confirms Aoki et al. (2023) that survivorship and rehab programs should embed psychosocial elements across routine care throughout all stages of diagnosis until survivorship ends.

Several significant constraints should be considered despite the study's solid findings. The research structure limited the possibility to establish cause and effect relationships. Further confirmation of identified pathways requires longitudinal studies based on the SmartPLS 4.0 model structure since inferential robustness depends on it according to Ferlay et al. (2021) and Cassano & Fava (2002). Self-reported measures in this research have inherent biases because of social desirability effects and recall inaccuracies. Inconsistent perspectives regarding social support and self-efficacy exist among individuals because of cultural influences that research from Hollon et al. (2002) and Caplan et al. (2000) verifies.

The next studies which examine these constraints must integrate both quantitative and qualitative research methods to obtain deeper insight about patient perceptions of personal achievements and their social network connections throughout the analysis period. Intervention trials that use controlled methods of altering social support levels and implementing self-efficacy training modules could generate evidence to support the proposed mechanisms (Hakim, 2023; Rusdi et al., 2024). The research demonstrates a need to change breast cancer care strategies so integrated models become standard which combine patient medical results with mental health wellness management. Oncology teams need to assess social support needs together with self-efficacy at the treatment start (Wechsler et al., 2023; Zhou et al., 2024). The assessment enables healthcare providers to implement customized interventions such as psychoeducation coupled with peer support structures along with behavioral coaching. Public health policies need to make psychosocial care mandatory for cancer treatment programs most especially in places with limited resources (Ddungu, 2011; Gómez-Batiste et al., 2017).

Conclusion

This research establishes that support networks and a sense of personal effectiveness jointly and interconnectedly develop quality of life for chemotherapy-treated breast cancer patients. The study demonstrated that social support directly boosts self-efficacy and quality of life simultaneously but self-efficacy stands as an independent factor that enhances patients' life quality by mediating social support processes. The results demonstrate that breast cancer survivorship affects much more than medical procedures because it impacts fundamental psychological and social aspects of life. Research findings prove that supportive social environments build internal coping tools that patients need to combat cancer. Patients receive better treatment outcomes together with enhanced quality of life when family members and friends and clinician support them with empathetic and consistent efforts to develop their self-efficacy. People with scantly resources and advanced stages of disease need stronger psychosocial support interventions to counter their heightened risks. The research confirms quality of life in oncology requires integrated medical treatments that minimize emotional distress by addressing the whole spectrum of cognitive and existing patient demands. Cancer patients who believe in their ability to recover from disease develop stronger outcomes in their survivorship because of external social support. Lack of psychosocial support development results in an undermining of all clinical intervention success.

The development of holistic health care models that assess and cultivate patients' social support networks and self-efficacy practices represents a necessary component for successful oncology care. Healthcare decision-makers together with hospital executives should establish psychosocial services integration as part of standard cancer care approaches because they represent essential factors for achieving optimal patient-concerned results. While the cross-sectional nature of this study limits causal interpretation, the strength and consistency of the findings highlight urgent directions for future research. Longitudinal and interventional studies are needed to further delineate the dynamic interactions among social support, self-efficacy, and quality of life over the cancer journey. Additionally, qualitative inquiries into patients' subjective experiences would enrich understanding of how these psychosocial resources are perceived, accessed, and internalized across diverse cultural and socioeconomic contexts.

Acknowledgement

Gratitude is expressed to Dr. M. Djamil Padang General Hospital, Surgical Oncology Polyclinic and all breast cancer patients who were willing to be respondents in this study.

References

Akezaki, Y., Nakata, E., Kikuuchi, M., Tominaga, R., Kurokawa, H., Okamoto, M., ... & Sugihara, S. (2021, February). Investigation of factors affecting early quality of life of patients after breast cancer surgery. In *Healthcare* (Vol. 9, No. 2, p. 213). MDPI. https://doi.org/10.3390/healthcare9020213

Alenezi, A., Livesay, K., McGrath, I., & Kimpton, A. (2023). Ostomy-related problems and their impact on quality of life of Saudi ostomate patients: A mixed-methods study. *Journal of Clinical Nursing*, *32*(13-14), 3707-3719. https://doi.org/10.1111/jocn.16466

Aoki, M., Kuratsune, H., Yamamoto, S., Hirano, T., Hanaeda, K., Nishi, Y., ... & Arao, H. (2023). Autonomic function measurements for evaluating fatigue and quality of life in patients with breast cancer undergoing radiation therapy: a prospective longitudinal study. *Radiation Oncology*, *18*(1), 171. https://doi.org/10.1186/s13014-023-02362-w

Banning, M., Hafeez, H., Faisal, S., Hassan, M., & Zafar, A. (2009). The impact of culture and sociological and psychological issues on Muslim patients with breast cancer in Pakistan. *Cancer Nursing*, *32*(4), 317-324. https://doi.org/10.1097/ncc.0b013e31819b240f

Bar-Sela, G., Tsalic, M., Fried, G., & Goldberg, H. (2007). Wheat grass juice may improve hematological toxicity related to chemotherapy in breast cancer patients: a pilot study. *Nutrition and cancer*, *58*(1), 43-48. https://doi.org/10.1080/01635580701308083

Caplan, L. S., May, D. S., & Richardson, L. C. (2000). Time to diagnosis and treatment of breast cancer: results from the National Breast and Cervical Cancer Early Detection Program, 1991-1995. *American journal of public health*, *90*(1), 130. https://doi.org/10.2105/ajph.90.1.130

Cassano, P., & Fava, M. (2002). Depression and public health: an overview. *Journal of psychosomatic research*, *53*(4), 849-857. https://doi.org/10.1016/s0022-3999(02)00304-5

Cuthrell, K. M., & Tzenios, N. (2023). Breast cancer: updated and deep insights. *International Research Journal of Oncology*, *6*(1), 104-118.

Ddungu, H. (2011). Palliative care: what approaches are suitable in developing countries?. *British journal of haematology*, *154*(6), 728-735. https://doi.org/10.1111/j.1365-2141.2011.08764.x

Efrida, Y. (2022). *Hubungan Dukungan Keluarga Terhadap Motivasi Patuh Protokol Kemoterapi Pada Pasien Kanker Payudara Di Ruang Tulip Rsud Tarakan Jakarta* (Doctoral dissertation, Universitas Binawan).

Ferlay, J., Colombet, M., Soerjomataram, I., Parkin, D. M., Piñeros, M., Znaor, A., & Bray, F. (2021). Cancer statistics for the year 2020: An overview. *International journal of cancer*, *149*(4), 778-789. https://doi.org/10.1002/ijc.33588

Frisch, M. B. (2005). *Quality of life therapy: Applying a life satisfaction approach to positive psychology and cognitive therapy*. John Wiley & Sons.

Gandi, J. C., Wai, P. S., Karick, H., & Dagona, Z. K. (2011). The role of stress and level of

burnout in job performance among nurses. *Mental health in family medicine*, *8*(3), 181.

Gómez-Batiste, X., Mateo-Ortega, D., Lasmarías, C., Novellas, A., Espinosa, J., Beas, E., ... & Barbero, J. (2017). Enhancing psychosocial and spiritual palliative care: four-year results of the program of comprehensive care for people with advanced illnesses and their families in Spain. *Palliative & Supportive Care*, *15*(1), 98-109. https://doi.org/10.1017/s1478951516000857

Hakim, A. (2023). *Dahsyatnya Hipnosis Keberuntungan, Menciptakan, Menerapkan Dan Memelihara Keberuntungan*. Nas Media Pustaka.

Hanssen, I., & Pedersen, G. (2013). Pain relief, spiritual needs, and family support: Three central areas in intercultural palliative care. *Palliative & supportive care*, *11*(6), 523-530. https://doi.org/10.1017/s1478951513000102

Hollon, S. D., Thase, M. E., & Markowitz, J. C. (2002). Treatment and prevention of depression. *Psychological Science in the public interest*, *3*(2), 39-77. https://psycnet.apa.org/doi/10.1111/1529-1006.00008

Hong, R., & Xu, B. (2022). Breast cancer: an up-to-date review and future perspectives. *Cancer communications*, *42*(10), 913-936. https://doi.org/10.1002/cac2.12358

Invernizzi, M., De Sire, A., Venetis, K., Cigna, E., Carda, S., Borg, M., ... & Fusco, N. (2022). Quality of life interventions in breast cancer survivors: state of the art in targeted rehabilitation strategies. *Anti-cancer agents in Medicinal Chemistry (formerly current Medicinal Chemistry-Anti-Cancer Agents)*, *22*(4), 801-810. https://doi.org/10.2174/1871520621666210609095602

Ju, W., Zheng, R., Zhang, S., Zeng, H., Sun, K., Wang, S., ... & He, J. (2023). Cancer statistics in Chinese older people, 2022: current burden, time trends, and comparisons with the US, Japan, and the Republic of Korea. *Science China Life Sciences*, *66*(5), 1079-1091. https://doi.org/10.1007/s11427-022-2218-x

Kleiman, E. M., & Riskind, J. H. (2013). Utilized social support and self-esteem mediate the relationship between perceived social support and suicide ideation. *Crisis*. https://doi.org/10.1027/0227-5910/a000159

Kondratowicz, B., Godlewska-Werner, D., Połomski, P., & Khosla, M. (2022). Satisfaction with job and life and remote work in the COVID-19 pandemic: the role of perceived stress, self-efficacy and self-esteem. *Current Issues in Personality Psychology*, *9*(1). http://dx.doi.org/10.5114/cipp.2021.108097

Mateo, J., Steuten, L., Aftimos, P., André, F., Davies, M., Garralda, E., ... & Voest, E. (2022). Delivering precision oncology to patients with cancer. *Nature medicine*, *28*(4), 658-665. https://doi.org/10.1038/s41591-022-01717-2

Mellysa, M., & Saputri, R. (2020). Hubungan kepatuhan kemoterapi dengan kualitas hidup pasien kanker payudara: literature review. In *Proceeding of Sari Mulia University Nursing National Seminars* (Vol. 2, No. 1, pp. 167-181).

Mennin, D. S., Fresco, D. M., O'Toole, M. S., & Heimberg, R. G. (2018). A randomized controlled trial of emotion regulation therapy for generalized anxiety disorder with and without co-occurring depression. *Journal of consulting and clinical psychology*, *86*(3), 268. https://doi.org/10.1037/ccp0000289

Mohammed, V. A., Mohammed, M. A., Mohammed, M. A., Ramakrishnan, R., & Logeshwaran, J. (2023, September). The Spreading Prediction and Severity Analysis of Blood Cancer Using Scale-Invariant Feature Transform. In *2023 International*

Conference on Network, Multimedia and Information Technology (NMITCON) (pp. 1-7). IEEE. http://dx.doi.org/10.1109/NMITCON58196.2023.10276289

Newell, S., Sanson-Fisher, R. W., Girgis, A., & Bonaventura, A. (1998). How well do medical oncologists' perceptions reflect their patients' reported physical and psychosocial problems? Data from a survey of five oncologists. *Cancer: Interdisciplinary International Journal of the American Cancer Society*, *83*(8), 1640-1651.

Normanno, N., Apostolidis, K., de Lorenzo, F., Beer, P. A., Henderson, R., Sullivan, R., ... & Lawler, M. (2022, September). Cancer biomarkers in the era of precision oncology: addressing the needs of patients and health systems. In *Seminars in cancer biology* (Vol. 84, pp. 293-301). Academic Press. https://doi.org/10.1016/j.semcancer.2021.08.002

Ruiz, M. Á., Sanjuan, P., Pérez-García, A. M., & Rueda, B. (2011). Relations between life satisfaction, adjustment to illness, and emotional distress in a sample of men with ischemic cardiopathy. *The Spanish Journal of Psychology*, *14*(1), 356-365. https://psycnet.apa.org/doi/10.5209/rev_SJOP.2011.v14.n1.32

Rusdi, N. K., Iskandar, I., Maifitrianti, M., Nurhasnah, N., Sulistyaningsih, E., & Safitri, L. D. Kualitas Hidup Pasien Kanker Payudara Menggunakan Kuesioner QLQ BR-23 di Rumah Sakit Kanker Dharmais Jakarta Barat. *JPSCR: Journal of Pharmaceutical Science and Clinical Research*, *9*(2), 186-199. https://doi.org/10.20961/jpscr.v9i2.84445

Saleem, T., & Hawamdeh, E. S. (2023). Counselor self-efficacy, spiritual well-being and compassion satisfaction/fatigue among mental health professionals in Pakistan. *Current Psychology, 42*(16), 13785-13797. https://link.springer.com/article/10.1007%2Fs12144-021-02499-5

Sebastian, A. M., & Peter, D. (2022). Artificial intelligence in cancer research: trends, challenges and future directions. *Life*, *12*(12), 1991. https://doi.org/10.3390/life12121991

Singal, A. G., Kanwal, F., & Llovet, J. M. (2023). Global trends in hepatocellular carcinoma epidemiology: implications for screening, prevention and therapy. *Nature reviews Clinical oncology*, *20*(12), 864-884. https://doi.org/10.1038/s41571-023-00825-3

Smith, G. L., Banegas, M. P., Acquati, C., Chang, S., Chino, F., Conti, R. M., ... & Yabroff, K. R. (2022). Navigating financial toxicity in patients with cancer: a multidisciplinary management approach. *CA: a cancer journal for clinicians*, *72*(5), 437-453. https://doi.org/10.3322/caac.21730

Thom, R., Silbersweig, D. A., & Boland, R. J. (2019). Major depressive disorder in medical illness: a review of assessment, prevalence, and treatment options. *Psychosomatic medicine*, *81*(3), 246-255. https://doi.org/10.1097/psy.0000000000000678

Vuong, S., & Warner, E. (2024). Breast cancer survivorship among younger patients: Challenges and opportunities—Narrative review. *Annals of Palliative Medicine*, *13*(5), 1246257-1241257. https://doi.org/10.21037/apm-24-64

Warner, L. M., Ziegelmann, J. P., Schüz, B., Wurm, S., & Schwarzer, R. (2011). Synergistic effect of social support and self-efficacy on physical exercise in older adults. *Journal of aging and physical activity*, *19*(3), 249-261. https://doi.org/10.1123/japa.19.3.249

Wechsler, S., Fu, M. R., Lyons, K., Wood, K. C., & Wood Magee, L. J. (2023). The role of exercise self-efficacy in exercise participation among women with persistent fatigue after breast cancer: A mixed-methods study. *Physical therapy*, *103*(1), pzac143.

https://doi.org/10.1093/ptj/pzac143

Wulandari, W. K., Astuti, T., & Udani, G. (2024). The relationship between family support and self-efficacy in preoperative breast cancer patients: Implications for healthcare practices. *Majalah Kesehatan Indonesia*, *5*(2), 55-62. https://doi.org/10.47679/makein.2024175

Zhou, Y., Shan, H., Wu, C., Chen, H., Shen, Y., Shi, W., ... & Li, Q. (2024). The mediating effect of self-efficacy on family functioning and psychological resilience in prostate cancer patients. *Frontiers in Psychology*, *15*, 1392167. https://doi.org/10.3389/fpsyg.2024.1392167