

ORIGINAL ARTICLE

Factors That Influence the Quality of Life of Breast Cancer Patients

Roslina Dewi¹, Fera Melinda¹, Maria Yulianti¹, Dila Nurul Arsyi¹, Ady Waluya¹, Sri Janatri¹, Nunung Liawati²

¹ Study Program of Bachelor Nursing, Sekolah Tinggi Ilmu Kesehatan Sukabumi Indonesia

² Study Program of Diploma III Nursing, Sekolah Tinggi Ilmu Kesehatan Sukabumi Indonesia

ABSTRACT

Introduction: Breast cancer treatment will trigger various emotional changes and these emotional responses can significantly impair quality of life. Previous studies have examined factors related to quality of life separately, but the combined effects and interrelationships between these variables are not yet fully understood. This study aimed to identify the factors that influence the quality of life in breast cancer patients. **Methods:** This type of research uses quantitative methods. The population in this study were all breast cancer patients totalling 86 patients at the Hema-to-Oncology Poly of Sayang Cianjur Hospital, sample size of 76 respondents. The accidental sampling was the technique used for selecting the sample. Data collection methods using questionnaires with EORTC QLQ-C30, BCSES, CCQ and DUREL instruments. The statistical analysis used was path analysis. **Results:** Religiosity has a direct effect ($b = 0.215$, $p = 0.042$) and an indirect effect mediated by self-efficacy ($b = 0.806$, $p = 0.000$) and coping mechanisms ($b = 0.333$, $p = 0.005$), with a total indirect effect ($b = 0.585$). Self-efficacy has a direct effect ($b = 0.371$, $p = 0.001$) and an indirect effect mediated by coping mechanisms ($b = 0.521$, $p = 0.000$). Coping mechanisms have a direct effect ($b = 0.381$, $p = 0.000$). Self-efficacy and coping mechanisms together have an indirect effect ($b = 0.198$). **Conclusion:** These findings highlight the important roles of religiosity, self-efficacy, and coping mechanisms in improving the quality of life of breast cancer patients, both directly and through interrelated pathways.

Malaysian Journal of Medicine and Health Sciences (2026) 22(SUPP9).42-48.doi:10.47836/mjmhs.22.s9.7

Keywords: Breast Cancer, Coping Mechanism, Quality of Life, Religiosity, Self-efficacy

Corresponding Author:

Roslina Dewi, PhD

Email: roslianadewi@dosen.stikesmi.ac.id

Tel: +62 858-7149-7607

INTRODUCTION

Among cancer patients, breast cancer stands as the top cause of death globally (1). World Health Organization (WHO), states breast cancer causes 670,000 deaths globally by 2022. Breast cancer is recognized as the most prevalent neoplasm among women, with its mortality rate rising each year (2). Half of breast cancer cases occur in women who don't have any specific risk factors except for their gender and age. About 0.5-1% of breast cancers occur in men.

Breast cancer can lead to a reduced quality of life for patients who suffer from it due to its mental and physical impact (3). In general, breast cancer patients can be treated in two ways, namely pharmacological and non-pharmacological. These treatments include surgery, chemotherapy, radiation, and combination therapy (4). The treatment for breast cancer often leads to various

emotional challenges, including stress, fear, anxiety, and major depression, which can severely affect a person's quality of life (3).

Quality of life involves various elements such as physical health, functioning capabilities, perceived health status, mental and emotional state, symptom management, need fulfillment, cognitive well-being, and psychiatric health (5). Modern medicine aims not only to prolong life but also to improve its quality (6). In breast cancer patients, quality of life is essential as it provides a more detailed evaluation of their mental and physical well-being, alongside the conditions of their living environment. The added information regarding the patient's quality of life is vital for delivering effective multidisciplinary care using the appropriate approaches (7). Quality of life in breast cancer patients is influenced by several factors, religiosity, self efficacy, and coping mechanisms (7–9).

One of the factors that impact the quality of life for breast cancer patients is their coping mechanisms. Coping mechanisms are the adaptations a person makes in their emotions, thoughts, and attitudes when dealing

with stress. Factors like personal beliefs or skills, social support, and available resources play a significant role in determining coping mechanisms (10). Patients may develop false impressions about their illness and treatment if they do not use effective ways to cope with the illness, which ultimately affects their medical outcomes (11).

Self-efficacy also plays a role in determining the quality of life for breast cancer patients. Self-efficacy is a person's belief in their ability to manage events that affect their life. Research indicates that self-efficacy positively influences health behaviors, symptom management, and adherence to cancer treatments. Individuals with high self-efficacy are more likely to take on difficult tasks, set ambitious goals, and persist in achieving them. They recover faster from setbacks and maintain their commitment, demonstrating that self-efficacy plays a significant role in coping with the challenges posed by chronic conditions (12).

Another factor that affects quality of life is religiosity. Religiosity affects the lives of many people by influencing their cognitive processes, emotional responses, motivations, and behaviors. Religion includes the organization of a large number of beliefs, customs, and convictions (13). In many cases, women with breast cancer use religiosity as a coping tool that enhances their subjective well-being, though it is not necessarily a guiding force in their daily decisions based on religious norms. Thus, faith and religiosity play a role in their coping strategies (14).

Although there have been many studies on factors affecting the quality of life of breast cancer patients, there are still a number of gaps in the literature. Most studies have highlighted psychological, spiritual, and behavioral aspects as important elements, but the specific mechanisms of interaction between these factors, especially those involving religiosity, are not yet fully understood. Although the role of religiosity has been recognized as a source of strength in coping with illness, in-depth exploration of how religiosity interacts with self-efficacy and coping mechanisms to influence quality of life is still limited. This gap provides an important basis for further research exploring the direct and indirect influences between these variables, in order to provide a more comprehensive understanding of the psychological and spiritual factors that support the well-being of breast cancer patients. This study aimed to identify the factors that influence the quality of life in breast cancer patients at RSUD Sayang Cianjur Regency.

MATERIALS AND METHODS

Study Design

This type of research uses a quantitative method. This research was conducted at the Hemato Oncology Medical Polyclinic of Sayang Cianjur Hospital. Before

data collection, ethical permission was obtained (No: 000882/KEP STIKES SUKABUMI/2024).

Sample

The population in this study were all breast cancer patients totaling 86 patients at the Hemato Oncology Medical Polyclinic of Sayang Cianjur Hospital, with a sample size of 76 respondents. Accidental sampling was the technique used for selecting the sample. The inclusion criteria were breast cancer patients stage 1 and 2, breast cancer patients over the age of 19 years, willing to be respondents, able to write and read and cooperative patients. The exclusion criteria were breast cancer patients who had complications / comorbidities such as (Diabetes mellitus, Heart Disease, Lung Disease, and other chronic diseases).

Instrument

The data collection method used a questionnaire, where the instrument The EORTC Core Quality of Life questionnaire (EORTC QLQ-C30) with validity $VE = 0.90$ and construct reliability (RF) = 1 (15), breast cancer self-efficacy scale (BCSES) with Cronbach's α Coefficient 0.82 and correlation coefficient for validity 0.97 (16), The Cancer Coping Questionnaire (CCQ) questionnaire the consistency reliability of individual scale items is 0.87 and interpersonal items are 0.82 (17) and the DUREL Questionnaire (Duke University Religion Index) with Cronbach's $\alpha = 0.78-0.91$ and ($r = 0.71-0.86$) (18).

Data Analysis

Univariate analysis in this study used frequency distribution analysis for the variables of religiosity, self-efficacy, coping mechanisms and quality of life. Multivariate statistical analysis used path analysis. SPSS software version 16 was used to perform the statistical analyses in this study.

RESULTS

A total of 76 respondents were involved in this study. As shown in Table I, most respondents were aged 46-55 years ($n = 31$, 40.8%), followed by those aged 36-45 years ($n = 25$, 32.9%). The majority of respondents were married ($n = 66$, 86.8%), had completed senior high school education ($n = 34$, 44.7%), were not working ($n = 64$, 84.2%), and had been suffering from breast cancer for more than one year ($n = 69$, 90.8%).

The descriptive statistics and path analysis results are presented in Table II. The mean scores for religiosity, self-efficacy, coping mechanisms, and quality of life were 30.84 (SD = 9.00), 34.94 (SD = 7.60), 56.51 (SD = 13.06), and 50.90 (SD = 10.58), respectively.

Based on the path analysis model shown in Figure 1, religiosity had a significant direct effect on quality of life ($b = 0.215$, $p = 0.042$). Religiosity also showed

Table I : Overview of Respondent Characteristics

Respondent Characteristics	F	%
Age (Years)		
26-35	1	1.3
36-45	25	32.9
46-55	31	40.8
56-65	13	17.1
> 65	6	7.9
Marital Status		
Married	66	86.8
Unmarried	9	11.8
Divorce	1	1.3
Education		
No School	1	1.3
Elementary School	24	31.6
Junior High School	7	9.2
Senior High School	34	44.7
College	10	13.2
Employment Status		
Not Working	64	84.2
Working	12	15.8
Long Suffering (Years)		
<1	7	9.2
>1	69	90.8
	76	100.0

self-efficacy, and coping mechanisms were associated with quality of life among breast cancer patients, with religiosity showing the largest total effect.

DISCUSSION

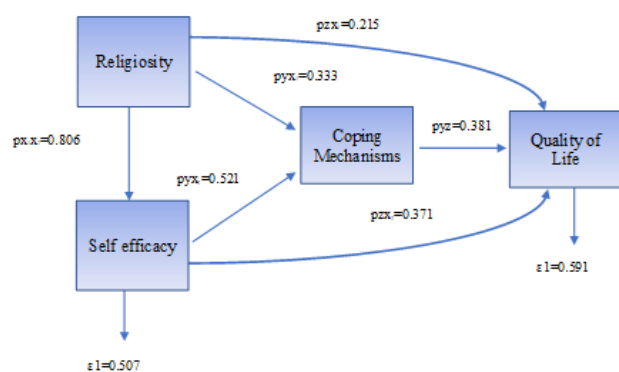
Religiosity

This study demonstrates that religiosity directly and indirectly affects the quality of life for breast cancer patients. This aligns with the findings of Dewi et al., 2022, which highlight the significant role of religiosity in enhancing the quality of life for these patients. One form of religiosity demonstrated is through spiritual interventions such as intercessory prayer. Intercessory prayer, where others pray for the well-being of the patient, has been shown to be effective in reducing spiritual distress, increasing positive religious/spiritual coping skills, and decreasing anxiety and depression (11). Patients who participated in intercessory prayer showed better spiritual coping skills during radiotherapy, helping them to cope with the physical and emotional challenges of cancer treatment. In addition, this

Table II: Descriptive Statistics and Path Analysis of Religiosity, Self-Efficacy, Coping Mechanisms, and Quality of Life

Variable	Mean	SD	Min	Max	Direct Effect on Quality of Life	p-value	Indirect Effect	Total Effect
Religiosity	30.84	9.00	19	48	0.215	0.042	0.585	0.800
Self-efficacy	34.94	7.60	22	47	0.371	0.001	0.198	0.569
Coping mechanisms	56.51	13.06	27	76	0.381	<0.001	-	0.381
Quality of life	50.90	10.58	28	75	-	-	-	-

Note. Indirect effects are summarized from path analysis calculations: religiosity to quality of life through self-efficacy and coping mechanisms = 0.585; self-efficacy to quality of life through coping mechanisms = 0.198, $p < 0.001$ is used instead of $p = 0.000$.

**Figure 1 : Model Path Analysis of Quality of Life**

an indirect effect on quality of life through self-efficacy and coping mechanisms, with an indirect effect value of 0.585 and a total effect of 0.800.

Self-efficacy had a significant direct effect on quality of life ($b = 0.371$, $p = 0.001$). In addition, self-efficacy had an indirect effect on quality of life through coping mechanisms, with an indirect effect value of 0.198 and a total effect of 0.569. Coping mechanisms also had a significant direct effect on quality of life ($b = 0.381$, $p < 0.001$). Overall, these findings indicate that religiosity,

intervention was also associated with a decrease in salivary amylase levels, which is a biological indicator of stress. This decrease in levels suggests that prayer has a significant calming effect on the patients' nervous and hormonal systems, helping them to feel calmer and more optimistic during treatment. (19).

Patient religiosity can be influenced by the characteristics of the patient itself. Breast cancer patients who are in the productive age range of 46-55 years tend to have greater spiritual maturity and use religion as a coping mechanism in dealing with illness. This age is often associated with the search for meaning and hope through religion. In addition, marriage also plays a role in increasing religiosity, where spousal support is thought to help patients rely more on religion as a source of strength. Patients with higher education tend to understand religious values more deeply and practice them more reflectively. On the other hand, patients who are not working often rely more on religion as a source of mental comfort. A length of time with cancer of more than one year also encourages patients to seek spiritual serenity in the face of the prolonged course of the disease (20,21).

Religiosity has a profound effect on breast cancer

patients' quality of life, as spiritual interventions help them better cope with the disease, reduce negative emotions like stress, anxiety, and depression, and increase positive outcomes like life satisfaction, optimism, and spiritual health. Positive religious experiences, like faith in a loving God, support patients' mental and physical health by reducing stress hormones and boosting the release of happy hormones such as dopamine and serotonin. Conversely, negative religious views, such as feeling abandoned or punished by God, can be detrimental to quality of life. Hence, religiosity plays a vital role in improving the quality of life of breast cancer patients, covering physical, psychosocial, and spiritual dimensions. (19).

Religiosity in patients with breast cancer has a favorable impact on the quality of life. Highly religious patients tend to enjoy better social and spiritual well-being, helping them to cope with the challenges of the disease. Involvement in religious activities provides crucial emotional and psychological support, and increases overall life satisfaction. The direct influence of religiosity is seen in improved well-being that gives life meaning and purpose. On the other hand, indirect effects occur through self-efficacy and coping mechanisms. Strong religious beliefs increase patients' sense of ability to cope with stress and challenges, while positive coping mechanisms help patients deal better with difficulties. When compared with self-efficacy and coping mechanisms, religiosity of breast cancer patients has a more dominant effect on quality of life, as it provides important emotional support in the healing process (22).

Self Efficacy

This study shows that self-efficacy has an important role in improving the quality of life of breast cancer patients, both directly and through indirect mechanisms. This result is in line with the results of the study Shen et al (2020), showed that the self-efficacy of breast cancer patients can affect the quality of life of these patients.. High self-efficacy in patients leads to increased confidence in handling illness and treatment challenges, helping them cope with stress, fear, and uncertainty more effectively (23). This high level of confidence also helps patients manage their daily lives, including maintaining social relationships and emotional well-being. In addition, self-efficacy supports patients in developing more effective coping mechanisms and encourages enthusiasm for treatment. With a strong belief in one's own abilities, patients are better able to utilize social support and other available resources, which positively affects their quality of life, particularly in the physical, mental, and social aspects (24).

Self-efficacy in breast cancer patients is influenced by several characteristic factors such as age, marital status, education, occupation, and length of time with the disease. Patients aged 46-55 years tend to have higher self-efficacy because they are at the peak of

personal and social responsibility, so they are more motivated to manage their own health. Emotional support from a spouse for married patients also increases their confidence in coping with illness, as the marital relationship provides important social support. Higher education plays a big role in self-efficacy, where better knowledge allows patients to feel more confident in making treatment-related decisions. In contrast, patients who are not working may feel less competent as they do not have an active role in the social environment, which may lower their self-efficacy. Length of time with cancer also affects these beliefs, as patients who have faced the disease longer are generally more knowledgeable about the treatment process. However, if treatment does not go as expected, this can reduce their self-efficacy levels (25).

The quality of life of breast cancer patients is significantly influenced by self-efficacy. These beliefs help them deal with stress and uncertainty during treatment. Individuals with higher self-efficacy tend to exhibit greater confidence in their social and emotional interactions, which supports their well-being. They are more active in seeking social support and implementing positive coping strategies, such as asking for help and resolving conflicts. Self-efficacy also strengthens patients' ability to manage the emotional, physical and social impact of the disease, which helps reduce stress and anxiety. Research shows that self-efficacy is directly related to all aspects of quality of life, including physical, psychological, social and environmental. With higher self-efficacy, patients are more optimistic and effective in dealing with the disease, and more open to social support. This all contributes to an overall improved quality of life (26,27).

Self-efficacy has a significant impact on breast cancer patients' quality of life. Their confidence in managing their disease affects their physical, psychological and social well-being. Individuals with higher self-efficacy are usually more active in undergoing treatment and maintaining a healthy lifestyle, which helps reduce physical symptoms such as pain and fatigue, and improves emotional well-being by reducing stress and anxiety. In addition, self-efficacy contributes indirectly through coping mechanisms. Strong beliefs enable patients to develop more effective coping strategies, such as facing challenges with optimism and seeking social support. These mechanisms help them cope with emotional and psychological stress, thereby improving overall quality of life. Patients who have good coping skills tend to feel more empowered over their illness, reduce emotional burden, and maintain a better quality of life throughout the course of the disease (28).

Coping Mechanism

This study shows that coping mechanisms significantly affect the quality of life of breast cancer patients. This is explained in the study Kager et al., (2022), the

coping mechanism employed by breast cancer patients significantly affect their quality of life, which rely on optimism and the capacity to handle stress and emotions effectively (29). This contributes to better management of the psychological and emotional aspects that patients experience during the cancer treatment journey (30).

The coping mechanisms of breast cancer patients are influenced by various characteristic factors. Productive age of 46-55 years generally supports better coping mechanisms because patients are in a period of life full of responsibilities, such as work and family, so they are more accustomed to managing stress. Marital status is also a contributing factor, as spouses can provide significant emotional and social support. Higher education facilitates patients' ability to understand their condition and make more informed and logical decisions in dealing with the disease. On the other hand, patients who are not working may face greater challenges in coping with stress, as limited activities may exacerbate their focus on the disease. However, patients who have had breast cancer for more than a year often have more mature coping mechanisms, as they have gone through a long process of adjustment, and are thus more skilled at managing their emotions (6).

The role of coping strategies is essential in enhancing the quality of life for breast cancer patients. Patients rely on various means, both emotional and spiritual, to deal with the psychological distress that comes with a cancer diagnosis. One of the most prominent mechanisms is social support from family and friends, which provides a sense of security, maintains self-esteem and generates hope. Patients who receive adequate support often report a better quality of life, with reduced symptoms of depression and anxiety. This support strengthens patients' psychological resilience, positively impacting their well-being (31).

Coping mechanisms in breast cancer patients play an essential impact in improving their quality of life by helping them navigate the emotional strain and stress that accompany a diagnosis. Patients who implement strategies such as self-acceptance and good emotional management tend to be better able to cope with uncertainty and fear about the future. In this way, they can reduce the psychological distress that can worsen their physical condition. By developing a more positive and flexible mindset, patients are able to maintain emotional balance, which significantly improves their quality of life during cancer treatment (32).

CONCLUSION

This study highlights the significant role of religiosity, self-efficacy, and coping mechanisms in determining the quality of life among breast cancer patients. Religiosity not only provides direct support but also strengthens psychological resilience through its influence on self-

efficacy and coping strategies. Meanwhile, self-efficacy and coping mechanisms help patients manage emotional and practical challenges more effectively, which in turn enhances their overall well-being. These findings emphasize the importance of integrating spiritual and psychological support into patient care to improve quality of life outcomes.

ACKNOWLEDGEMENT

The authors gratefully acknowledge the financial support provided by Sekolah Tinggi Ilmu Kesehatan Sukabumi for this study

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