



# Family Support as a Predictor of Quality of Life Among Breast Cancer Patients in Indonesia

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## ABSTRACT

Breast cancer has been increasing and it is often resulted to the death among women in Indonesia. Like other cancer patients, the quality of life among breast cancer patients is assumed being affected. However, previous study found that individual's quality of life can be increased by family support. This study aims to explore the impact of family support to quality of life among breast cancer patients in Indonesia. A cross-sectional study is conducted to 102 participants. Family support is measured by the Sources of Social Support Scale (SSSS) and quality of life is measured by the European Organization for Research and Treatment of Cancer-Quality of Life Questionnaire Core-30 (EORTC QLQ-C-30). This study found a significant impact on family support towards every dimension of quality of life among breast cancer patients. The finding implies that breast cancer patients need their family as their support system to support their condition after being diagnosed.

**Keywords:** *Breast Cancer; Family Support; Patient; Quality of Life*

## 1. INTRODUCTION

Breast cancer is one of the most burdened cancers in Indonesia which accounts for over 30% of all cancers diagnosed [1]. The number of breast cancer cases in Indonesia has been growing every year. Breast cancer becomes one of the most common cancer types detected in Indonesia [2]. Among 100000 people in Indonesia, the incidence rate of breast cancer is almost 40.3 percent and the mortality rate is 16.6 percent [1].

The rate of mortality due to breast cancer is increasing over time [3]. Unfortunately, patients with breast cancer in Indonesia are mostly late-diagnosed so the cancer has been in the advanced stages [4]. The condition has raised the urgency of exploring how the cancer has affected the patients' mental health condition.

Although humans can adjust the situation and perform various treatments, the quality of life among breast cancer patients might be affected by the diagnosis of cancer [5], [6]. Almost 50% of patients reported significant distress after being diagnosed and treated for breast cancer [7], [8]. After being diagnosed and treated for breast cancer, women tend to be associated with negative effects that lead to lower quality of life [9].

Quality of life is "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" [10]. Although quality of life is considered subjective and multidimensional which holds within physical, emotional, material, and social well-being; for those who are experiencing health problems, such as breast cancer patients, it is obvious that their quality of life is affected.

Patients with breast cancer experience significant emotional and psychological challenges. Breast cancer patients, for instance, are having negative experiences while doing and after treatments. Those negative experiences include other physical problems and psychological problems, such as pain, body image concerns, fatigue [11], depression and anxiety [12]. Facing those problems related to their physical, emotional, material, and social conditions, are overwhelming and stressful. It is acknowledged that either the diagnosis of treatment for breast cancer patients would affect women's mental health and their quality of life [13].

Considering breast cancer patients' situations that are undergoing long-term treatments, it is important to create

a support system (or social support) that can improve their quality of life. Social support can be defined as interpersonal relationships in taking information, emotional attention, evaluation, and instrumental assistance through interaction with the environment [14].

It is stated in the above definition that there are four different supports in social support. These supports are: 1) informative support, such as giving advices, suggestions, ways of solution for problems, 2) emotional support, such as showing empathy, attention, care, 3) appreciative support, such as showing respect, and 4) instrumental support, such as giving direct assistance or help.

The person who has social support then will feel comfortable and be loved. Earlier studies suggested that there were correlations between social support and good health and well-being [15]. The social support then not only gives emotional support but also gives influences to the healthy behaviours.

The sources of social support come from spouse, family, friend, or social organization [14]. Close relations such as family and close friends are important sources in social support [16]. However, family is considered as the most important source of social support [17]. Bronfenbrenner suggested that family is a vital part of the microsystem [18]. Microsystem is an ecological system that directly affects a person. Therefore, having a family which can support the patients is considered meaningful.

In relation to family as a source of social support, one of studies suggested that proper social support provided improvements in parenting [19]. A strong emotional support which a family has can promote both the development of a child and the functioning of parental roles; in other words emotional support promotes well-being of family members [20], [21]. Moreover, emotional support from a husband or a partner and close friends are considered important for children's adjustment, family well-being, protection against mental health problems, such as depression [22]–[24]. It is shown that family is a vital source of social support; and that family support promotes resilience and coping with stress. This is in line with the statement of Fonagy, et. al., [25] that stated social support contributes to coping strategies as well as resilience development of family members.

Previous studies on family support, health or illness, and psychological distress were many. It is stated that there is a bidirectional influence between family support and physical or psychological illnesses [26]. In other words, these two variables can influence each other. A study on marital perception suggested that there is a relation between negative marital perceptions (such as spousal support) and clinical depression [26]. Moreover, a study noted that a small number of quantities and the low quality of family support were related to psychological symptoms [26].

Botu [27] explained that the higher family support they have, the better quality of life in patients. Along with the support that patients get, they tend to believe that they are loved, appreciated, and are a part of social network such as family or community that can help them whenever they need [28]. Therefore, a study on the impact of family support to the breast cancer patients' quality of life is needed. The result of this study will hopefully be advantageous in advancing the breast cancer patients' quality of life.

## 2. METHOD

This study was a cross-sectional study with non-experimental design. A quantitative method was applied in this study with 102 participants included. All participants in this study were women with breast cancer history.

This study aims to explore the impact of family support to quality of life of breast cancer patients. The dependent variable in this study is quality of life. The independent variable is family support. The measurements of variables were using the instruments of 1) European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (QLQ-C30) for assessing quality of life (30 items) and 2) the Sources of Social Support Scale (SSSS) for assessing family support (10 items). The statistical analysis used three multiple regression analysis for each quality of life's dimension.

The first procedure is to pass ethical consideration. The approval of research ethics stated the beginning of the process of data collection. Participants who agreed to join in this study were given 1 demographical form and 2 instruments to be fulfilled by using an online form. Participants spent 15 minutes to fulfill the forms and questionnaires of the study. The collected data was treated confidentially and was only used for the study purpose and its research publications.

## 3. RESULT AND DISCUSSION

### 3.1. Participant's Overview

There were 102 participants recruited in this study and all of them were female. Most of participants in this study were Muslim (90.2%) and only a few of them were Christian (7.8%) or Catholic (2.0 %). As seen in table 1, more than half of participants (54.9%) were working either as government employees, private employees, or entrepreneurs. However, 34.3% participants of this study were housewife. There were 87 out of 102 participants (85.3%) who have been married and 69.6% of participants held at least bachelor's degree or upper. Additionally, half of participants had a decent income which more than 10 million rupiahs in a month (52%).

**Table 1** Demographic Data

Characteristic	N	Percentage (%)
a) Religion		
Moslem	92	90.2
Christian	8	7.8
Catholic	2	2.0
b) Occupation		
Housewife	35	34.3
Civil servant	16	15.7
Private employee	19	18.6
State-owned enterprise officer	3	2.9
Entrepreneur	11	10.8
Student	1	1.0
Others	7	6.9
Retired/Not working	10	9.8
c) Educational level		
High school or less	11	10.8
Diploma degree	20	19.6
Bachelor's degree	56	54.9
Master's degree	11	10.8
Doctoral degree	4	3.9
d) Marriage status		
Not married	1	1.0
Married	87	85.3
Divorce	7	6.9
Widow	7	6.9
e) Family income		
< Rp 1.500.000	3	2.9
Rp 1.500.000-3.000.000	11	10.8
Rp 3.000.000-5.000.000	10	9.8
Rp 5.000.000-10.000.000	25	24.5
> Rp 10.000.000	53	52.0

Each participant in this study was known as a breast cancer patient with various medical history regarding their condition. There 35.3% participants whose cancer cells were not detected in their body. There was no assurance that patients in this condition were recovered because cancer could relapse one day. However, in this situation, patients were considered as cancer survivor when no cancer cells detected.

Almost half of participants whose cancer was at second stage (30.4%) and third stage (16.7%). The rest of them either was at early-stage (6.9%) or late-stage breast cancer (10.8%). Gratefully, almost all participants had no metastatic cancer (93.1%). Most of participants received various treatments for their cancer, either medical or non-medical treatment. More than half of participants had experience chemotherapy and mastectomy. Few participants also got lumpectomy, radiation therapy, hormonal therapy, and targeted therapy as part of their medical treatment. Several participants tried the alternative therapy, such as herbal therapy, acupuncture, or the trial therapy—Electro Capacitive Cancer Therapy (ECCT).

Before testing the hypothesis, family support and quality of life of participants were described using

descriptive statistics. There were 102 participant's data analyzed in this study. The mean score of overall social support was 42.70 (SD = 5.495) with minimum score 10 and maximum score 50. The mean score of all social support's types were listed—emotional support (M = 26.44; SD = 3.387) with minimum score 6 and maximum score 30, informational support (M = 3.36; SD = 1.124) and instrumental support (M = 4.22; SD = 1.052) with minimum score 1 and maximum score 5, and negative support (M = 3.33; SD = 1.759) with minimum score 2 and maximum score 10 (see table 3).

Emotional, informational, and instrumental support were the type of support that supporting individuals; meanwhile negative support was prone to discourage individuals. Items for negative support should be transformed before calculating the total score. A positive support was indicated by the lower score in negative support's item and the higher score in other type of supports. In instrument SSSS, the higher total score reflects the better support received by individuals.

This study showed that the participants of this study received positive social support from their family in general. Participants of this study also received strong support in the forms of emotional support, informational

support, and instrumental support. Fortunately, the negative support received by participants was quite low.

**Table 2** Participant's Cancer History

Description	N	Percentage (%)
a) Cancer status		
Clear	36	35.3
Early stage	11	10.8
2nd stage	31	30.4
3rd stage	17	16.7
Late stage	7	6.9
b) Metastatic cancer		
Yes	7	6.9
No	95	93.1
c) Received treatment		
Chemotherapy	52	51.0
Mastectomy	55	53.9
Lumpectomy	27	26.5
Radiation therapy	36	35.3
Hormonal therapy	43	42.2
Targeted therapy	20	19.6
Alternative therapy	25	24.5
Electro-Capacitive Cancer Therapy	11	10.8
Sentinel Lymph Node Biopsy	9	8.8
Surgical Metastatic Cancer	1	1.0
None	1	1.0

The three dimensions of quality of life were evaluated. As seen in table 3, the mean score of dimensions functional was 79.67 (SD = 16.498) and dimension global health was 79.49 (SD = 22.455). On the other hand, the mean score of dimension symptom was

19.31 (SD = 16.391). A good quality of life was reflected by higher score in dimension functional and global health yet lower score in dimension symptoms. This study showed the participants of this study had good quality of life in each dimension of quality of life (see table 3).

**Table 3** Description of participant's social support and quality of life

Description	Min	Max	Mean	SD
a) Social support				
Total Score	10	50	42.70	5.495
Emotional support	6	30	26.44	3.387
Informational support	1	5	3.36	1.124
Instrumental support	1	5	4.22	1.052
Negative support	2	10	3.33	1.759
b) Quality of life				
Dimension functional	0	100	79.67	16.498
Dimension global health	0	100	79.49	22.455
Dimension symptoms	0	100	19.31	16.391

Pearson correlation analysis was performed to assess the relationship of family support to each dimension of quality of life (function, global health, and symptoms). Preliminary analyses were also performed to make sure all assumptions were not violated. The result demonstrated significant relationships between family support to each dimension of quality of life.

This study found positive relationships between family support and quality of life dimension function ( $r = 0.339$ ;  $p < 0.01$ ) and dimension global health ( $r = 0.423$ ;  $p < 0.01$ ). On the other hand, a negative relationship between family support and quality of life dimension symptom ( $r = -0.382$ ;  $p < 0.01$ ). This finding indicated that individuals received more support would have better condition in function and global health dimension, yet lower dimension symptoms.

**Table 4** Correlation between family support and quality of life

Measures	1	2	3	4
1) Quality of life - Function	-			
2) Quality of life - Global health	.705**	-		
3) Quality of life - Symptoms	-.808**	-.742**	-	
4) Family support	0.339**	0.423**	-0.382**	-

\* Correlation is significant at the 0.05 level (p<0.05)

\*\* Correlation is significant at the 0.01 level (p<0.01)

Three times simple regression analyses were run in this study to investigate the impact of family support to quality of life among breast cancer patients. The current study investigated the significant contribution of family support towards quality-of-life dimension function, global health, and symptoms. This study found a significant impact of family support towards every dimension of quality of life among breast cancer patients in Indonesia. The results details of each dimension of quality of life are presented below:

**3.1.1. The impact of family support to quality of life – general health dimension**

Family support significantly affects quality of life in general health dimension of breast cancer patients (sig. 0.000; R Square 0.389). This result reflects 38.9% in quality of life (general health dimension) among breast cancer patients are affected by family support and several latent variables.

**Table 5** Regression Analysis Family Support and Quality of Life - Dimension Function

R	R Square	Adjusted R Square	F	Sig.
.624 <sup>a</sup>	.389	.351	10.091	0.000

**3.1.2. The impact of family support to quality of life – functions dimension**

Family support significantly affects quality of life in functions dimension of breast cancer patients (sig. 0.000;

R Square 0.240). This result reflects 24% in quality of life (functions dimension) among breast cancer patients are affected by family support and several latent variables.

**Table 6** Regression Analysis Family Support and Quality of Life - Dimension Function

R	R Square	Adjusted R Square	F	Sig.
.489 <sup>a</sup>	.240	.192	4.897	0.000

**3.1.3. The impact of family support to quality of life – symptoms dimension**

Family support significantly affects quality of life in symptoms dimension of breast cancer patients (sig.

0.000; R Square 0.347). This result reflects 34.7% in quality of life (functions dimension) among breast cancer patients are affected by family support and several latent variables.

**Table 7** Regression Analysis Family Support and Quality of Life - Dimension Function

R	R Square	Adjusted R Square	F	Sig.
.589 <sup>a</sup>	.347	.306	8.431	0.000

**3.2. Discussion**

The results of this study relate to the objective outlined in the introduction. It showed that family support is a predictor of quality of life of breast cancer patients in Indonesia, in every dimension of quality of life (general health, functions, and symptoms dimension). It means that family support influences breast cancer patients' general health, their life functions (physical function, role function, emotional function, cognitive function, and social function), and their cancer symptoms.

These results are in line with previous studies conducted by Massie and Holland and Tomich and Helgeson which suggested that quality of life might be affected by the diagnosis of cancer. These are also in accordance with the studies by Kornblith & Ligibel and Sollner et al. which reported patients' significant distress after being diagnosed and treated for breast cancer; as well as a study by Karlsen et al. which reported the experience of negative effects that lead to cancer patients' lower quality of life.

In relation with negative experiences that patients' have and the dimensions of quality of life (general health, functions, and symptoms); the results of this study are also in accordance with previous studies that reported the patients' experiences on physical problems and psychological problems, such as pain, body image concerns, fatigue [11] depression and anxiety [12], or in other words, their experiences of mental health problems and quality of life [13].

This study then affirms that all dimensions in quality of life are affected by family support. This study states the importance of social support for breast cancer patients, especially from family [14],[16],[17],[27],[28]; as well as Bronfenbrenner in Santrock with his ecological system, especially the microsystem [18].

Moreover, the results of this study can be discussed in detail from the aspect of family support types. The results of this study are in line with the research results by Dunst, et. al. and Riley which reported the impact of emotional support type in family support to the well-being of family members [20], [21]; as well as studies by Brown and Harris, Homel, et.al., Holden, et. al., Cano, et. al. which reported the impact of emotional support type from a husband or a partner for family well-being and for protection against mental health problems such as depression and the impacts on psychological symptoms [22]–[24], [26]. Furthermore, this study results are in line with a study by Fonagy, et. al. which suggested the impact of family support on resilience development of family members and coping strategies [25].

The further research is needed to explore more latent variables involved along with family support in predicting the quality of life of breast cancer patients.

#### 4. CONCLUSION

Family support influences the quality of life of breast cancer patients in every dimensions. The highest impact of family support is on general health dimension of quality of life, then followed by symptoms dimension, and the lowest is at the functions dimension. Family support is not the single factor that influences the quality of life. There are latent variables contribute in quality of life such as age, income, marriage status, stage cancer, cancer history in family, and other relevant factors or demographic factors. Further research is needed to investigate the impacts of those latent variables which contribute along with family support on breast cancer patients in Indonesia.

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