

Social Economic Factors, Depression, and Resilience among Women with Breast Cancer in Surakarta

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ABSTRACT

Background: Women with breast cancer will experience physical and psychological changes that can cause depression. Social factors related to depression can affect the resilience of breast cancer sufferers. This study aimed to determine the factors that affect depression and resilience in women with breast cancer.

Subjects and Method: This was a cross sectional study conducted in Kerten, Surakarta, from November to December 2018. A total of 200 women was selected for this study using simple random sampling. The dependent variable was the resilience of women with breast cancer. The independent variables were depression, family support, peer support, group support, self-efficacy, and coping mechanism. The data were collected by questionnaire and analyzed by path analysis run on Stata 13.

Results: Resilience was directly affected by depression ($b = -0.09$; 95% CI= -0.14 to -0.05; $p < 0.001$), family support ($b = 0.22$; 95% CI= 0.11 to 0.32; $p < 0.001$), peer support ($b = 0.23$; 95% CI= 0.12 to 0.34; $p < 0.001$), group support ($b = 0.18$; 95% CI= 0.06 to 0.29; $p = 0.002$), self-efficacy ($b = 0.15$; 95% CI= 0.06 to 0.24; $p = 0.001$), and coping mechanism ($b = 0.05$; 95% CI= 0.03 to 0.09; $p = 0.001$). Resilience was indirectly affected by family support, peer support, group support, and self efficacy.

Conclusions: The resilience of women with breast cancer is directly affected by depression, family support, peer support, group support, self-efficacy, and coping mechanism, but it is indirectly affected by family support, peer support, group support, and self efficacy.

Keywords: resilience, breast cancer, depression, support, self-efficacy, coping mechanism

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BACKGROUND

Cancer is a disease with the second highest number of deaths after heart disease in the world. According to Jemal et al (2011) data in the Global Cancer Statistics study, it is reported that the incidence of cancer in Southeast Asia is the highest among countries in the world, with Indonesia ranked at the top along with Malaysia and Singapore.

Breast cancer is one of the most common types of malignant tumors, WHO (World Health Organization) in 2013 made

breast cancer the number one killer that threatens women's health (WHO, 2014). Based on data from the Ministry of Health of the Republic of Indonesia sub-directorate of Cancer in 2013, the number of cases of breast cancer patients was 61,682 people, with the highest prevalence in the Special Region of Yogyakarta amounting to 2.4% (4,325 people). However, if based on estimates the highest number of sufferers is in Central Java amounting to 11511 cases (Indonesian Ministry of Health, 2015). Surakarta City Health Office stated that

breast cancer sufferers in Surakarta City in 2015 were around 9,320 people (Dinkes Surakarta, 2016).

Cancer sufferers can experience depression because they are afraid of being overshadowed by the death that is getting closer (Rahmandani and Subandi, 2010). Depression symptoms will arise when first diagnosed with cancer, continuing during the treatment process even after undergoing treatment (Aini and Satiningsih, 2015). Depression can be caused by changes in body shape, self-confidence, experiencing changes in social roles and unacceptable lifestyles, and experiencing financial problems for medical expenses (Stanton et al, 2015).

From many studies conducted on cancer patients, it was found that the prevalence of depressed cancer patients varied from 1% to 50% (Holland and Evcimen, 2009).

Not all breast cancer sufferers become depressed, some people are able to rise up, accept their condition and live their lives well because they are optimistic that they have the belief that the disease is only temporary and can be cured (Domhardt et al, 2015). Breast cancer sufferers are referred to as resilient individuals, namely individuals who are able to rise up, stand above suffering, are able to improve the disappointment faced in their lives (Southwick and Charney, 2013).

Resilience is influenced by the different ways individuals make coping and self-efficacy in dealing with stressful situations, if coping is done effectively it can help cancer sufferers to learn about changing situations in their lives (Taylor, 2012). Self-efficacy related to mastery of experience, individual abilities obtained by combining cognitive, behavior, self-regulation to determine the speed of achieving something,

have a significant positive influence on resilience (Yendork and Somhlaba, 2015).

Social support obtained from big families, main families, neighbors and friends is significantly related to resilience. The main family is the main source of potential social support for achieving resilience, because each family member has an unchangeable support function such as love, interdependence, trust, tolerance and commitment (Herawati, Krisnatuti and Rukmayani, 2012).

Preliminary study by researchers at the Surakarta Breast Cancer Community, was named Lovely Pink Solo, precisely in the Kerten region, that as of June 2018 there were 250 women who joined as members. The purpose of the establishment of this community is as a forum for exchanging information on treatment, giving each other support, thinking positively and strengthening breast cancer sufferers so that their confidence returns (Retno, 2018).

Based on the problems described, researchers want to try to understand the emotional reactions that arise in women with breast cancer who focus on the level of depression. In addition to depression, it also aims to know the effect of social support (family, friends and companions), coping and self-efficacy on resilience in patients with breast cancer.

SUBJECTS AND METHOD

1. Study Design

This study was an observational analytic study using a cross sectional study design. It was conducted on Jalan Siwalan III No. 25 Kerten Surakarta, from November to December 2018.

2. Population and Samples

The source population in this study was breast cancer patients who were members of the Breast Cancer Community. The samples were chosen using simple random

sampling amounting to 200 research subjects.

3. Study Variables

The dependent variable is resilience. The independent variables were depression, family support, friend support, companion support, self-efficacy and coping.

4. Operational Definition of Variables

Resilience is the ability of individuals to overcome the challenges of life (rise) from adverse events and maintain good health so that they can continue to live a healthy life. The stronger resistance in breast cancer sufferers, the higher the spirit of his life and optimistic in living his life. The measurement scale is continuous.

Depression is a condition of prolonged disruption of mood which generally appears due to loss of hope or feeling helpless. The lower the level of depression will have an impact on the strength of the fighting life of patients with breast cancer. The measurement scale is continuous.

Family support is the statement of the research subject to the support / assistance provided by family members in dealing with breast cancer suffered by the research subjects. High family support can provide emotionally positive encouragement that affects both physical and mental health. The measurement scale is continuous.

Friend support is the statement of the research subject to the support / assistance given by peers in dealing with breast cancer suffered by the research subjects. Support from people around is strong, can bring hope and enthusiasm when facing life challenges. The measurement scale is continuous.

Companion support is a statement of the research subject to the support provided by the companion in dealing with breast cancer suffered by the research subject. Strong companion support from the management of the breast cancer

community can motivate patients to be more positive and confident. The measurement scale is continuous.

Self-efficacy is the belief of the study subject to the ability to perform self-care, environment, emotional and behavioral conditions in the face of breast cancer. High self-efficacy can improve the ability to face difficult situations and be able to rise from failures experienced. The measurement scale is continuous.

Coping is the subject's statement of research about the thoughts and attitudes taken in the face of breast cancer. Effective coping skills can prevent the emergence of psychological disorders such as anxiety, stress and depression. The measurement scale is continuous.

5. Study Instrument

The measuring instruments in this study were primary data in the form of questionnaires characteristic of research subjects, depression, family support, friend support, companion support, self-efficacy and coping. Data collection was done using questionnaires that has been tested for the reliability. Reliability test was carried out by Cronbach Alpha test on 20 research subjects.

6. Data Analysis

Univariate analysis of the characteristics of the research subjects in the form of categorical data / dichotomy was described in the form of frequency (n) and percentage (%). Bivariate analysis was performed using the Pearson test using continuous data. Multivariate analysis using path analysis with the SPSS Stata 13 program, through the following stages:

- a. Model Specification
- b. Model identification
- c. Model suitability
- d. Estimation
- e. Model Respecification

7. Research Ethics

The ethics of this study include informed consent, anonymity, confidentiality and ethical clearance. The ethical clearance was obtained from Faculty of Medicine, Universitas Sebelas Maret, Surakarta, Central Java, with number: 322 / UN27.6 / KEPK / 2018 with ID Protocol 01/18/10/322 issued on October 24, 2018.

Table 1. Sample characteristics

Characteristics	n	%
Age		
< 45 years	89	44.5
≥ 45 years	111	55.5
Education		
< SHS	72	36
≥ SHS	128	64
Income		
Low	107	53.5
High	93	46.5
Cancer duration		
< 2 years	114	57
≥ 2 years	86	43
Stage of cancer		
Stadium I	36	18
Stadium II	88	44
Stadium III	76	38
Marital Status		
Single	15	7.5
Married	166	83
Widow	19	9.5
Occupation		
Jobless	100	50
Working	100	50
Depression		
Weak	92	46
High	108	54
Family Support		
Weak	102	51
Strong	98	49
Friends Support		
Weak	104	52
Strong	96	48
Companion Support		
Weak	112	45.5
Strong	88	54.5
Coping		
Low	113	56
High	87	44
Self-Efficacy		
Low	82	41
High	118	59
Resilience		
Weak	57	28.5
Strong	143	71.5

RESULTS

1. Sample Characteristics

Table 1 showed the results of sample characteristics. Table 1 showed that 55.5% of patients were at age >45 years old. Most of the patients attained education >senior high school (64%).

As many as 107 patients (53.5%) had income <minimum wage. As many as 63% patients worked as housewives. Patients who had suffered from cancer for <2 years were 114 (57%). As many as 88 patients (44%) were at stage II of cancer. Most of the patients were married (83%).

2. Bivariate Analysis

The results of bivariate analysis can be seen in Table 2. Table 2 showed that family

support ($r= 0.53$; $p<0.001$), peer support ($r= 0.51$; $p<0.001$), group support ($r= 0.40$; $p<0.001$), coping ($r= 0.46$; $p<0.001$), and self-efficacy ($r= 0.41$; $p<0.001$) increased resilience of cancer patients. Depression decreased resilience of cancer patients ($r= -0.62$; $p<0.001$).

Table 2. Bivariate Analysis

Variable	Resilience of Cancer Patients	
	r	p
Depression	-0.62	<0.001
Family support	0.53	<0.001
Peer support	0.51	<0.001
Group support	0.40	<0.001
Coping	0.46	<0.001
Self-efficacy	0.41	<0.001

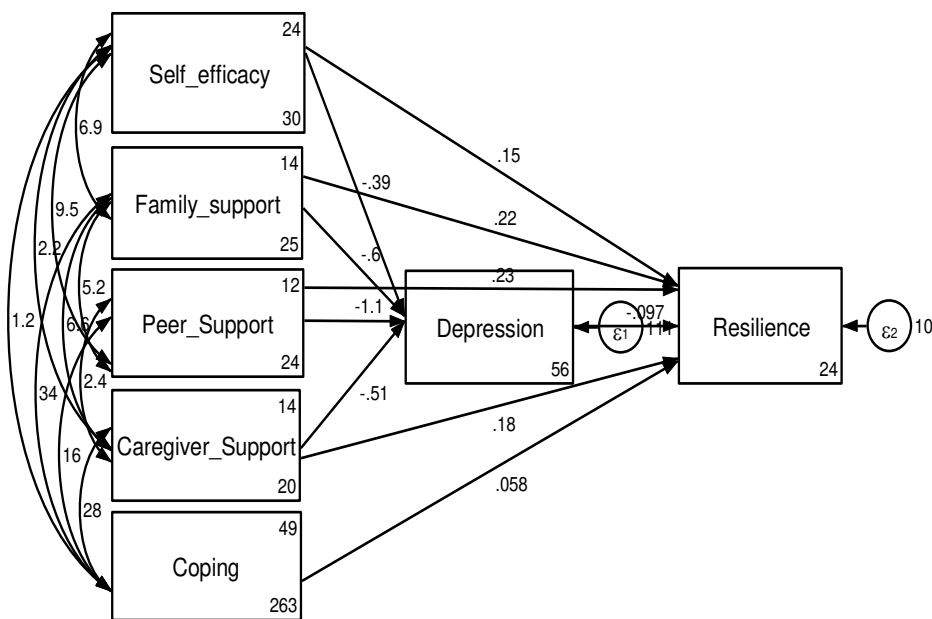


Figure 1. Path analysis model with estimation

The data were analyzed by using the Stata program 13. Figure 1 depicted path analysis mode with estimation. Figure 1 showed that the number of observed variables was 7, the endogenous variables were 5, the exogenous variables were 2, and the parameters were 7. Df value was 11 (over-identified). Table 3 showed the results of path analysis.

Table 3 showed that resilience of cancer patients was directly increased by strong family support ($b= 0.22$; 95% CI= 0.11 to 0.32; $p<0.001$), strong peer support ($b= 0.23$; 95% CI= 0.12 to 0.34; $p<0.001$), strong group support ($b= 0.18$; 95% CI= 0.06 to 0.29; $p= 0.002$), high self-efficacy ($b= 0.15$; 95% CI= 0.06 to 0.24; $p= 0.001$),

and good coping ($b = 0.05$; 95% CI= 0.03 to 0.09; $p = 0.001$). It was directly decreased

by depression ($b = -0.09$; 95% CI= -0.14 to -0.05; $p < 0.001$).

Table 3. The results of path analysis

Dependent Variables	Independent Variables	b	CI 95%		P
			Lower Limit	Upper Limit	
Direct effect					
Resilience	← Depression	-0.09	-0.14	-0.05	<0.001
	← Family support	0.22	0.11	0.32	<0.001
	← Peer support	0.23	0.12	0.34	<0.001
	← Group support	0.18	0.06	0.29	0.002
	← Self-efficacy	0.15	0.06	0.24	0.001
	← Coping	0.05	0.03	0.09	0.001
Indirect effect					
Depression	← Self-efficacy	-0.39	-0.68	-0.10	0.008
	← Family support	-0.60	-0.91	-0.29	<0.001
	← Peer support	-1.08	-1.39	-0.76	<0.001
	← Group support	-0.50	-0.85	-0.16	0.004

N observation= 200

Log likelihood= -4467.86

Resilience of cancer patients was indirectly affected by self-efficacy, family support, peer support, and group support through depression. Depression decreased with strong family support ($b = -0.60$; 95% CI= -0.91 to -0.29; $p < 0.001$), strong peer support ($b = -1.08$; 95% CI= -1.39 to -0.76; $p < 0.001$), strong group support ($b = -0.50$; 95% CI= -0.85 to -0.16; $p = 0.004$), and high self-efficacy ($b = -0.39$; 95% CI= -0.68 to -0.10; $p = 0.008$).

DISCUSSION

1. The effect of depression on the resilience of breast cancer patients

This study showed that low level of depression increased resilience of breast cancer sufferers. This study was in line with a study by Hu et al. (2018) which stated that depression was negatively related to resilience. People with low depression had a stronger level of resilience. Strong resilience can contribute to psychology to adapt to situations that lead to depression and appreciate their life more (Ristevska-Dimitrovska et al. 2015).

2. The effect of family support on the resilience of breast cancer patients

This study showed that there was an effect of family support on the resilience of breast cancer sufferers. Resilience was significantly related to family support, strong family support increased the resilience of breast cancer patients (Kim et al, 2015). Family was one of the factors that significantly influenced the ability of resilience for individuals who experienced stress, depression and trauma. It was impossible for individuals to get up on their own, it required the support from the closest people to encourage and motivate sustainably so as to achieve the resilience (Akinyemiju, 2012).

3. The effect of peer support on the resilience of breast cancer patients

The result of this study showed that there was an effect of peer support on the resilience of breast cancer sufferers which was statistically significant. Support from friends and closest people showed beneficial effects on psychological and emotional reactions, which was by reducing stressors and depression in breast cancer sufferers (Belcher, 2011). Peer support can provide a

strength for breast cancer sufferers in facing their illnesses so as to increase the resilience (Koelmel, 2017).

4. The effect of group support on the resilience of breast cancer patients

The result of this study showed that there was an effect of group support on the resilience of breast cancer patients. Support received by cancer patients was a source for reducing stress and depression (Costa et al, 2017). The role of group support influenced the psychological condition of breast cancer sufferers, which was increasing resilience and spirit of recovery in patients with breast cancer.

5. The effect of self-efficacy on the resilience of breast cancer patients

The result of this study showed that there was an effect of self-efficacy on the resilience of breast cancer sufferers which was statistically significant. Self-efficacy was one of the components of resilience that has a positive effect, the higher the self-efficacy, the higher the resilience (Yendork and Somjlaba, 2015). Self-efficacy was very important in influencing the effort, the strength an effort can predict the success that would be achieved.

6. The effect of coping on the resilience of breast cancer patients

The result of this study showed that there was an effect of coping on the resilience of breast cancer sufferers which was statistically significant. Coping can help breast cancer patients to learn about situation changes in their lives, overcome stress and depression, and understand the reasons for the cancer being faced and the effects that would occur (Taylor, 2012). Coping played an important role in increasing resilience because it was able to face life's challenges and has a positive effect on physical and mental health (Lees, 2010). Cancer sufferers who accepted the situation tend to

be better prepared to do coping and focused on overcoming the reality (Ren et al, 2015).

7. The effect of family support on the resilience of breast cancer patients

The result of this study showed that high family support can reduce the level of depression, thereby increasing the resilience of breast cancer patients. The family was the best friend for cancer patients in fighting with their illness. Family support for cancer patients was needed for emotional needs, alleviating depression and increasing the spirit of life for people with breast cancer (Hu et al, 2018). Family was the main environment that influenced, feeling of cared for and expected in the family can increase the desire to be healthy (Mhaidat, 2009).

8. The effect of peer support on the resilience of breast cancer patients through depression

The result of this study showed that high peer support can reduce the level of depression, thereby increasing the resilience of breast cancer patients. Studies showed that social support especially friends and resilience was a protection against individual emotional disturbances (Kroenke et al, 2006). Individuals with strong peer support tend to experience low levels of depression in facing stressful life experiences. Problems faced can be resolved properly so that the resilience became stronger (Li *et al*, 2015).

9. The effect of group support on the resilience of breast cancer patients through depression

The result of this study showed that high partner's support can reduce the level of depression, thereby increasing the resilience of breast cancer patients. Strong group support made the breast cancer sufferers to be independent and confident in their abilities. Group support was an important aspect as a motivation for breast cancer

sufferers to process disease recovery (Yeung, 2018).

10. The effect of self-efficacy on the resilience of breast cancer patients

The result of this study showed that high self-efficacy can reduce the level of depression, thereby increasing the resilience of breast cancer patients. Breast cancer sufferers who have high self-efficacy have better coping expectations and were able to face the challenges of resolving high stressors such as depression in cancer (Sagonea and Caroli, 2013). Decreasing levels of depression would strengthen the resilience in patients with breast cancer. With high confidence, breast cancer sufferers would try to survive in the bad conditions (Philip et al, 2013).

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