

Impact of Resilience on Psychological Well-Being In Breast Cancer Patients Undergoing Chemotherapy

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Abstract

Background: The most commonly used therapy for breast cancer is chemotherapy. Chemotherapy has physical and psychological side effects that affect the psychological well-being of the patient. Resilience plays an important role in changing psychological well-being. Cancer patients who have low levels of resilience will show negative psychological well-being and vice versa. However, the condition of cancer patients undergoing chemotherapy is not yet known whether resilience can change psychological well-being so that they can adapt to the stressors of chemotherapy.

Purpose: This study aims to analyze the relationship between resilience and psychological well-being of breast cancer patients undergoing chemotherapy.

Methods: This study was conducted using an observational analytic method with a cross-sectional approach. The population in this study were breast cancer patients who underwent chemotherapy sessions 2-6 at one of the hospitals in Malang, Indonesia. A sample of 62 people was obtained by using a stratified random sampling technique based on the chemotherapy sessions the patient underwent. Data Collection used the Connor-Davidson Resilience Scale questionnaire. Data analysis procedures were carried out in univariate and bivariate ways (lambda correlation test).

Results: The Univariate analysis showed that the lowest resilience was experienced by respondents who underwent the second chemotherapy session and the bivariate analysis showed that there was a positive correlation between resilience and psychological well-being with $p=0.039$ and $r=0.267$. This means that the higher a person's resilience, the greater the chance of having positive psychological well-being.

Conclusion: This study shows that the higher the resilience, the greater the probability of experiencing positive psychological well-being. While the higher the resilience, the more likely it is to experience positive psychological well-being. It is recommended that patients who will undergo chemotherapy are given education related to therapy so that low resilience is not experienced at the beginning of chemotherapy.

Keywords: breast cancer; chemotherapy; psychological well-being; resilience.

Introduction

Breast cancer cases in the world are ranked second after cervical cancer and become one of the leading causes of mortality for women in the world. The North American Association of Central Cancer Registries in 2017 mentioned that in Asia, the incidence of breast cancer is about 907 occurrences per 100,000 people (De Santis et al, 2017). Breast cancer caused 8.8 million deaths in 2015, while in the period 2011-2015 it was 11.3% of deaths and increased to 14% of deaths in 2016 (De Santis et al., 2017; Torre et al., 2016). Breast cancer is a type of cancer that is commonly found in Indonesia. The estimated incidence of cancer cases in women in Indonesia is 12/100,000, about 80% of cases are at an advanced stage, based on the identification of the average cancer patient already in a very concerning condition (Ministry

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of Health of the Republic of Indonesia, 2017). The data above shows that the morbidity and mortality of breast cancer has increased every year.

Most symptomatic patients who do not undergo immediate medical treatment are generally diagnosed with cancer at an advanced stage. This is due to the delay of patients coming to health services after the appearance of early symptoms of breast cancer (Fathania, Rahayuwati, & Yani, 2019). Advanced breast cancer will affect the quality of life and prognosis of the sufferer can be disturbed. (Moatter, T., Aban, M., Iqbal, W., & Pervez, S., 2015). Breast cancer patients lead a life of forming patterns that become reference throughout their lives. This pattern is an effort to learn, understand and apply a treatment and treatment behavior to support their quality of life, one of the efforts made is to undergo therapy (Witdiawati, Rahayuwati, & Sari, 2017).

Breast cancer therapy is given based on the stage. Therapy given in stages I and II is a combination of breast surgery and radiotherapy, a combination of breast surgery, radiotherapy and chemotherapy. The combination of mastectomy and chemotherapy is mostly done at this stage. While in stage IV, the most widely chosen treatment is a combination of radiotherapy and chemotherapy or one of them. Of the above therapies, chemotherapy is the most effective and most widely used therapy. The choice of therapy also depends largely on socio-demographic factors and the patient's knowledge. The more they know, the better decisions they make to treat the disease. Although in the end in general breast cancer patients decide to undergo chemotherapy (Rahayuwati, Ibrahim, Nurhidayah, & Hendrawati, 2020).

In stage I, patients have a 70% chance of recovery so that the quality of life is not too disturbed. In stage II, the possibility of recovery by 30-40% which causes the quality of life at this stage begins to be disrupted (Moatter, T., Aban, M., Iqbal, W., & Pervez, S., 2015). Many physical and psychological conditions undergo changes due to the side effects of chemotherapy. The impact that chemotherapy has on the physical is very diverse. Most patients experience gastrointestinal disorders such as diarrhea, constipation, nausea, vomiting, (Escalante et al., 2017) hair loss (Chon et al., 2012), decreased weight, malnutrition, general weakness (Bicakli et al., 2018), and sensory neuropathy (Kuchuk et al., 2013).

Psychic impacts caused by chemotherapy such as anxiety and depression due to physical changes (Baati et al., 2010) fear if the disease recurs, anger and feel guilty (Costa et al., 2016), self-esteem, impaired body image due to the occurrence of alopecia (Baati et al., 2010; Chon et al., 2012) The impact of chemotherapy above will have an effect on the psychological well-being of patients (Costa et al., 2016).

Psychological well-being is an overview of an individual's psychological health based on the

fulfillment of individual positive psychological function criteria (Karyono, Dewi and Lela, 2008). Breast cancer patients who have positive psychological well-being will show self-acceptance, self-reliance, ability to interact with the environment, a purpose in life, ability to show personal development and ability to build positive relationships with others. Negative psychological well-being will have an impact on an individual's self-acceptance of his or her physical changes, feeling lost, changing roles, difficulty achieving life goals, as well as awareness of family suffering (Zimmermann, Burrell and Jordan, 2018). In addition, individuals with negative psychological well-being will feel burdensome to others or families because of reduced independence. This is what makes breast cancer patients who have negative psychological well-being problems find it difficult to undergo chemotherapy (Lai et al., 2018).

Negative psychological well-being causes individuals to not have good stress management strategies (Mawarpury, 2013). Stress management strategies play a role in maintaining the stability of the psychological condition of breast cancer patients undergoing therapy. The balance of the patient's psychological condition plays an important role in the treatment process. Breast cancer patients who have a good stress management strategy will have improved health, high enthusiasm for life, good social function, decreased anxiety about the therapeutic process (Karyono, Dewi and Lela, 2008) For breast cancer patients undergoing chemotherapy, it is very important to reduce the occurrence of negative psychological effects due to chemotherapy.

Number of visits to breast cancer chemotherapy at the RST chemotherapy unit. TK II dr. Soepraoen Malang is \pm 95 people every month and 20 of them are new patients. A preliminary study using a questionnaire with guided questions on 10 patients undergoing chemotherapy showed 8 patients (80%) had negative psychological well-being, including patients who said that during chemotherapy they experienced limited activity, the patients also said that they were no longer able to do what they wanted because they felt limited and dependent on others. Five patients (50%) said they could not accept their current condition and had limitations in building relationships. 9 patients (90%) stated that they had a desire to discontinue chemotherapy because of the difficulties experienced during chemotherapy.

Resilience is a factor related to psychological well-being. Patients who have low levels of resilience will show negative psychological well-being. High resilience will make patients able to adapt to stressors (De Couto et al, 2011). Souri & Hasanirad (2011) research on medical students as a sample, shows that individuals who have high resilience can adapt to change so those individuals have positive psychological well-being. This is influenced by the characteristics of individuals who consider religious values to play an important role so that a person is optimistic. However, Wang and Tian (2010) research

Table 1. Respondent Demographic Data

Characteristics of respondents	n	%
Recent education		
Elementary school or equivalent	29	46.8
Junior high school or equivalent	18	29.0
High school or equivalent	10	16.1
College	5	8.1
Marital status		
Married	55	88.7
Unmarried	2	3.2
Ever married	5	8.1
Domicile		
Malang City	26	41.9
Out of Malang	36	58.1
Have you ever received information about breast cancer from health workers?		
Yes	44	71.0
No	16	29.0
Have you ever received information about chemotherapy from health workers?		
Yes	51	82.3
No	11	17.7
Have had breast removal surgery		
Yes	40	64.5
No	22	35.5

Table 2. Distribution of Respondents by Age and Length of Illness

Characteristics of respondents	n	Mean±SD	Min- Max
Age	62	48.90±8.11	30-62
Duration of illness	62	12.29±8.67	2-37

Table 3. Distribution of Respondents by Level of Resilience and Distribution of Respondents Based on The Level of Psychological Well-Being

Resilience	Session 2		Session 3		Session 4		Session 5		Session 6		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Low (22-29)	7	41.2	3	23.1	3	25.0	3	27.3	1	11.1	17	27.4
Medium (20-36)	6	35.3	6	46.2	6	50.0	5	45.5	6	66.7	29	46.8
High (37-42)	4	23.5	4	30.8	3	25.0	3	27.3	2	22.2	16	25.8
Psychological well-being												
Negative < cut off point	6	35.3	8	61.5	7	58.3	7	63.6	4	44.4	32	51.6
Positive > cut off point	11	64.7	5	38.5	5	41.7	4	36.4	5	55.6	30	48.4

Table 4. The Results of The Analysis of The Relationship between Resilience and Psychological Well-Being

		psychological well-being		Total	r	P
		Positive	Negative			
Resilience	Low	5	12	17	0.267	0.039
	Medium	13	16	29		
	High	12	4	16		

Baeda, A.G., et al. (2022)

conducted on gastrointestinal cancer patients who did not undergo chemotherapy, explained that resilience is not directly related to psychological well-being, this is because the study depends on the individual's quality of life. Meanwhile, in this study, the researcher wanted to analyze the relationship between resilience and psychological well-being of breast cancer patients undergoing chemotherapy at a hospital unit in Malang, Indonesia. Resilience research is needed to provide nursing care that focuses on the psyche of patients undergoing chemotherapy treatment.

Methods

Study design

This study used an observational analytic survey design with a cross sectional approach.

Setting and sample

The population in this study were breast cancer patients who underwent chemotherapy in one of the units of Malang Hospital, Indonesia. The total population of 74 people consisted of 20 people in session 2, 16 people in session 3, 15 people in session 4, 13 people in session 5, and 11 people in session 6. The number of samples was determined using Issacs Michael formula with an error rate of 5% so that the number of samples obtained is 62 people. The sample was selected using a stratified random sampling technique based on the chemotherapy sessions carried out, namely sessions 2-6. The sample size for each session is determined based on the stratum size by using the formula for the number of samples multiplied by the total population for each session divided by the total population, so that the minimum sample size for each session is as follows; session 2 with 17 people, session 3 with 13 people, session 4 with 12 people, session 5 with 11 people, and session 6 with 9 people. Respondents have different levels of resilience, meaning that for each chemotherapy session, there are respondents with high to low resilience. The inclusion criteria in this study were breast cancer patients who had undergone the first session of chemotherapy, aged 18-65 years, were willing to become respondents by signing an informed consent form, and were able to read and write. Exclusion criteria in this study were patients undergoing radiotherapy, taking antihistamines, anti-anxiety and antidepressants.

Variable

There are two variables in the study, namely the independent and dependent variables. The independent variable is the factor that affects psychological well-being, namely resilience, and the dependent variable is psychological well-being.

Instruments

Collecting data using the Connor-Davidson

Resilience Scale (CD-RISC) questionnaire is developed by Kathryn M. Connor and Jonathan R.T Davidson in 2003. Before the instrument is used, it must first be translated into Indonesian using the services of a professional translator. The questionnaire contains 22 statements, the independent variables (resilience) are measured using the Guttman scale, namely yes and no choices. For the favorable statement, the choice of 'yes' is given a value of 2 and the choice of 'not' is given a value of 1. While the statement that is not favored, the choice is given a value of 1 and the choice is not given a value of 2. The score obtained is in the form of an interval scale, to interpret in 3 categories, namely high, medium and low. Psychological well-being was measured using a Ryff's Psychological well-being scale (PWB) questionnaire. The Guttman scale, namely "yes" and "no", is used to measure the psychological well-being of respondents with a total of 38 statement items. Favorable statements with the "yes" option are given a value of 2 and the "no" choice is given a value of 1, while statements that are unfavorable with the choice of "yes" are given a value of 1 and the choice of "no" is given a value of 2. Determination of the category in the dependent variable uses with a cut off value. mean. Data were analyzed by univariate analysis and bivariate analysis (lambda correlation test).

Validity testing is carried out to determine whether or not the statement on each variable is valid. The instrument is valid if the calculated r value $> r$ table. The value of r table in this study is 0.576. The reliability test was carried out on statements that had a value of $r > 0.576$ (valid). Reliability testing is done only once by testing the instrument. After that, the analysis was carried out using KR-20. The results of the reliability of the questionnaire are based on Kuder Richardson-20, the questionnaire is declared reliable if the KR-20 value is > 0.90 . The validity test for the resilience variable was carried out on 25 statements. From these 25 statements, 22 valid statements and 3 invalid statements were obtained. Valid statements are statements numbered 1, 2, 3,4, 5, 6, 8, 10,11, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25 while the invalid is statement number 7,9,20. All invalid statements are removed (drop). Because based on the reliability test using the Kuder Richardson-20, a value above 0.90 means that the deleted statements are not reliable. Even if the statement is deleted, it will not affect the results because each resilience indicator still has a representative statement.

Data analysis

Data is processed using SPSS 16 for windows. The data analysis procedure was carried out with univariate and bivariate analysis. Univariate analysis is used to describe the characteristics of respondents. Bivariate analysis is done by connecting the independent variable with the

dependent variable that is thought to have a correlation. The two variables connected are categorical data (ordinal and nominal).

Ethical clearance

This research has obtained ethical permission number 352/EC/KEPK-S2/12/2018 from the Ethics Committee of the Faculty of Medicine, Universitas Brawijaya. The ethical aspect of research in this study is to respect the dignity of the respondent, namely the respondent is given the freedom to follow or refuse to be a respondent, patients agree to participate in the research, respect the privacy of the respondents by not disclosing personal information about the respondents, and ensure that the research does not harm the respondents. In this study, the possibility of the ethical principle being violated is related to the respondent's autonomy in the form of the length of the respondent's involvement in the study. To overcome this problem, respondents were given explanation again regarding involvement without negative consequences even though the research could not be completed to the end.

Results

Univariate Analysis Results

The results of the univariate analysis for the characteristics of the respondents, namely recent education, marital status, domicile, information about breast cancer and chemotherapy are displayed in the form of frequency and percentage distributions because these data are categorical data, while the respondent's age and length of illness are displayed in the form of mean, standard deviation, value minimum and maximum because the data is in the form of numeric data. The results of the univariate analysis of research variables, namely resilience and psychological well-being are shown in the form of frequency and percentage distributions because the data are categorical data.

The table above shows that the average respondent is 49 years old with an average length of illness of 12 months.

The table above shows the lowest percentage of resilience experienced by respondents who underwent the 2nd chemotherapy session and increased in the next session. However, the percentage of low resilience increased in sessions 4 and 5. This table shows low resilience because it is difficult for the patient to get out of the problem at hand, moderate resilience shows that it is difficult for the patient to rise from the problem but still tries to find a solution to the problem, and high resilience shows that the patient is able to control the situation that occurs from all possible adversities. The table also shows the percentage of respondents with the least negative psychological well-being experienced by respondents in session 2 and fluctuated in the

next session.

Table 4 shows that the value of $p = 0.039$, if $p < 0.05$. It can be concluded that H_0 is rejected, meaning that there is a relationship between resilience and psychological well-being. The value of $r = 0.267$ indicates a positive correlation with weak strength, meaning that the higher the resilience of patients undergoing chemotherapy, the more positive the psychological well-being of patients.

Discussion

Resilience is a process of adaptation when facing problems, pressures, threats, or more severe stressors. Resilience is needed in dealing with anxiety and depression to be able to adapt positively and be able to improve abilities in bad situations and conditions (Yang & Smith, 2016). Resilience is a process of self-defense from stressful situations against life experiences that have implications for psychological well-being. Humans are basically able to adapt to the environment and psychological changes. However, there are some conditions where individuals are unable to control their life situations, this is when resilience is needed so that individuals can control their life situations (Ifeagwazi et al., 2015).

Resilience is needed to withstand stressors. Resilience will result in good personal growth, and this will respond to the patient's readiness to face challenges or stressors. Good personal growth makes patients ready to face challenges so that patients have positive psychological well-being (Ivtzan et al., 2013). The whole process above can be assessed through the psychological well-being of the patient.

The results of this study indicate that many respondents experienced low resilience in the initial session of chemotherapy, but the percentage of resilience decreased or increased in the next session. The percentage of low resilience experienced by many respondents who underwent chemotherapy session 2 and increased in session 3. However, in sessions 4 and 5 the percentage of low resilience increased again and decreased again in session 6. This condition occurs because of the patient's resistance to undergoing chemotherapy changes and can increase if the individual is able to get through the stressor well. Patients who are able to adapt to the changes they experience during chemotherapy will show increased resilience. This is in line with the opinion of Moser et al. (2012) which states that resilience is dynamic, depending on a person's physical condition. K. E. Lee & Lim (2019) explained that an increase in resilience occurs if a person can adapt to a stressor by going through the changes caused by the stressor. This is in accordance with Wu et al., (2016) who explained that breast cancer patients undergoing chemotherapy patients will experience side effects

Baeda, A.G., et al. (2022)

such as hair loss, nausea, vomiting, and fatigue. This will make the patient experience psychological stress, therefore high resilience is needed so that the patient is able to adapt to the stressor.

Another factor that can affect resilience is the level of education. The results of this study indicate that most of the respondents were at elementary school education level, but their resilience can show an increase because respondents have received information from health workers and have access to telephones that can help patients obtain information related to their complaints. This is supported by Yurtsever (2010) which states that the information provided will make individuals aware of information about the disease they are experiencing, therapy, taboos, and directions so that individuals can prepare themselves for the situation to be faced.

The results of this study also show that there is a significant relationship between resilience and psychological well-being. The higher the patient's level of resilience, the higher the probability that the patient will have positive psychological well-being. High resilience can make psychological well-being positive. This is because patients undergoing chemotherapy believe that God will provide healing so that they feel optimistic. Optimism has a great capacity to influence individuals in adapting to changes or stressors. The respondent's ability to adapt to changes that occur increases self-acceptance, independence, and personal development during chemotherapy. This is in line with the research of Sourı & Hasanirad (2011) which explains that resilience plays a role in psychological well-being. According to him, resilience comes from religious values that direct a person towards optimism. Values in society explain the context of religion and faith is a key element in optimism. This is supported by Ivtzan et al. (2013) which explains that personal development which is one of the domains in psychological well-being is strongly influenced by religious factors and one's spirituality. Individuals with higher personal development will take the initiative to explore, seek, mingle and create meaning in their lives.

According to another research on resilience and psychological well-being, namely Yang & Smith (2016), individuals who are able to accept change will have good personal development so as to increase their readiness to adapt and deal with stressors. Research by K. E. Lee & Lim (2019) also explained that patients who are able to adapt to stressors are individuals who show improvement in physical and psychological aspects.

The respondent's low resilience is due to changes in physical condition due to chemotherapy. The increased resilience of respondents indicates that respondents are able to adapt to the changes they experience so that they can accept their conditions and can develop personally. Thus, the respondent will show positive psychological well-being.

Conclusion

Many patients experienced low resilience at the beginning of chemotherapy, increasing in the next session but decreasing in the last session. There is a significant relationship between resilience and psychological well-being. The higher the level of resilience, the more positive the welfare of patients undergoing chemotherapy. Future researchers are expected to analyze the relationship between family resilience and the resilience of patients undergoing chemotherapy.

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