PEDIOMATERNAL NURSING JOURNAL
Vol. 6, No. 2, September 2020
Journal Homepage: https://e-journal.unair.ac.id/PMNJ/
http://dx.doi.org/10.20473/pmnj.v6i2.19478

Original Research

Factors Associated with The Resilience of Breast Cancer Patients Undergoing Chemotherapy

Ariyani Wisudawati Nira [1], Mira Triharini[2], Aria Aulia Nastiti[2]

[1] Bachelor Student, Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia
[2] Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia

ARTICLE HISTORY

Received: May 29, 2020
Accepted: July 3, 2020
Published: July 4, 2020

KEYWORDS

resilience; chemotherapy; breast cancer; women

CORRESPONDING AUTHOR

Mira Triharini
mira-t@fkp.unair.ac.id
Faculty of Nursing,
Universitas Airlangga,
Surabaya, Indonesia

ABSTRACT

Introduction: The management of chemotherapy in breast cancer requires a long time and cause miscellaneous of side effects. High resilience is needed by breast cancer patients to undergo chemotherapy regularly. This study aimed to analyze factors associated with the resilience of breast cancer patients undergoing chemotherapy.

Methods: This study design was cross-sectional. From the total population of 122 breast cancer patients, a sample of 100 participants was selected using a purposive sampling technique. The independent variables were hardiness, education level, economic status, side effects of chemotherapy, family support, and anxiety. The dependent variable was resilience. The instruments of this study were Hardiness questionnaire, Chemothraphy-Symptom Assessment Scale (C-SAS), Family Support questionnaire, Zung-Self Rating Anxiety Scale (ZSRAS), and Connor-Davidson Resilience Scale (CD-RISC). The Spearmen's Rho was used for statistical analysis.

Results: Hardiness (p=0.000; r=0.310), Education Level (p=0.000; r=0.416), Economic Status (p=0.000; r=0.369), Side Effects of Chemotherapy (p=0.004; r=-0.283) and Family Support (p=0.000; r=0.579) have relation with the resilience. Anxiety has no relation with the resilience (p=0.23; r=0.121).

Conclusion: The side effects management of chemotherapy and family support were necessary to increase the resilience of breast cancer patients undergoing chemotherapy. It is highly recommended to the next researchers to do some studies about factors associated with the side effects of chemotherapy and nursing intervention, which can reduce the side effects of chemotherapy itself.

Cite this as:

Nira, A, W., Triharini, M., & Nastiti, A, A. (2020). Factors Associated with The Resilience of Breast Cancer Patients Undergoing Chemotherapy. *Pediomaternal Nurs. J.*, 6(2), 89-99. Doi: http://dx.doi.org/10.20473/pmnj.v6i2.19478

1. INTRODUCTION

Breast cancer most often attacks and affects 2.1 million women each year and is the most significant cause of cancer death among women (WHO, 2017). The most widely performed management of breast cancer is chemotherapy (Halimatussakdiah & Junardi, 2017). Resilience defined as the patient's ability to survive and rise from adversity and

be able to determine new things, including when dealing with cancer and chemotherapy actions (Nuwa *et al.,* 2018). The reduction in resistance marked by the unwillingness to continue chemotherapy because of psychological unpreparedness that causes the effects of it could not be resolved with treatment. This will lead to a broader metastasis that increases the number of morbidity and mortality (Yunitasari,2016). More cancer patients have less resilience to the diagnosis of cancer and the chemotherapy they undergo (Dubey *et al.*, 2015; Sugeng, 2016; Nuwa, 2018).

In 2013, the prevalence of cancer patients in Indonesia was 1.4%, and it rose to 1.79% in 2018. The incidence of cancer cases in Nusa Tenggara Timur (NTT) Province was 1.49% per mile, and those undergoing chemotherapy were 11.9% (Kemenkes, 2018). In 2018, an estimated 627,000 women died of breast cancer, which is about 15% of all cancer deaths among women (WHO, 2019). Medical Record data shows that breast cancer patients rank first among cancer patients undergoing chemotherapy and experience an increase every year in Prof. Dr. W.Z. Johannes Hospital Kupang. From January to February 2019, there were about 122 breast cancer patients who underwent chemotherapy and did post-chemotherapy control.

Personality aspects such as hardiness, optimism, previous life experiences, and demographic factors such as age, gender, socio-economic status, social support, and the absence of additional stressors are factors that influence the resilience (Deshields *et al.*, 2016). High hardiness can increase optimism (Bahrami *et al*., 2018). Hardiness is a personality characteristic that makes individuals stronger, more resistant, stable, and optimistic when dealing with stress and reducing the negative effects experienced (Kobasa in Sari, 2014).

The side effect, which is coming along with chemotherapy, makes the majority of patients who have been diagnosed with cancer filled with worry and anxiety, along with fear of death and pain during therapy(Matzka *et al.*, 2016). Excessive anxiety results in cancer patients reluctant to undergo chemotherapy. Anxiety occurs early in treatment due to worry about the side effects and fear of results after the treatment. Someone who cannot deal with cancer with a tendency to avoid will experience unfavorable development (Min *et al.*, 2013).

The interview results with four breast cancer patients who have undergone chemotherapy for more than three cycles indicate that there are concerns about the effects of chemotherapy and anxiety on the success of chemotherapy. Saturated with routine actions and side effects of chemotherapy, feeling alone bearing the illness, did not notice by the family and burdened with the cost touched by the patients. Family support plays a crucial role in patients to determine the type of treatment that will be done by patients and motivate them to undergo chemotherapy (Sudiyanti, 2017). Age, coping mechanisms, and resilience of cancer patients have also shown the relation with resilience (Nuwa *et al.,* 2018). This study aimed to analyze the factors associated with the resilience of breast cancer patients undergoing chemotherapy and the relation to hardiness, education level, economic status, side effects of chemotherapy, family support, and anxiety.

2. METHOD

2.1 Design

The design of this study used a correlational research design, which aimed to determine the relationship between the independent variable and the dependent variable. The approach used in this research was cross-sectional. The cross-sectional procedure is done by measuring the variables to be studied only once at a time without any follow-up. Not all research subjects were observed on the same day or time, but both the independent variable and the dependent variable were assessed only once (Nursalam, 2016). This research approach is carried out to determine factors associated with the resilience of breast cancer patients undergoing chemotherapy.

2.2 Population, Samples, and Sampling

The population in this study was breast cancer patients undergoing chemotherapy in Prof. Dr.W.Z.Johannes Hospital Kupang, totaling 122 people. From the total

population, a sample of 100 participants was selected using a purposive sampling technique. The criteria for being a respondent in this study include (1) women aged less than 65 years; (2) have received at least one chemotherapy treatment; (3) compos mentis awareness; and (4) able to communicate. After met the criteria, the participants were given the explanation and informed consent as a sign of willingness to be involved in the study.

2.3 Variables

The independent variables in this study were hardiness, education level, economic status, side effects of chemotherapy, family support, and anxiety while the dependent variable was the resilience of breast cancer patients undergoing chemotherapy.

2.4 Instruments

This study used a demographic data questionnaire to determine the characteristics of participants, the hardiness questionnaire, Chemotherapy-Symptom Assessment Scale (C-SAS), Family Support questionnaire, Zung-Self Rating Anxiety Scale (ZSRAS) and Connor-Davidson Resilience Scale (CD-RISC). The Hardiness questionnaire was a modification of the Bahramil hardiness questionnaire with a Cronbach alpha value of 0.961). Each question was given a score, where the score was 1 (most times), 2 (sometimes), 3 (rarely), 4 (never). Total values were categorized as high hardiness (x≥mean) and low (x<mean). Chemotherapy side effects questionnaire using Chemotherapy-Symptom Assessment Scale (C-SAS) with a Cronbach alpha value of 0.947 (Sugo, 2019). Each question was worth 1 (yes) and 2 (no). Side effects of chemotherapy were categorized into mild (≤ 7), moderate (7-13), severe (≥14). The family support questionnaire was modified from the Yunitasari family support questionnaire (2016) with a Cronbach alpha value of 0.962. Each statement in the family support questionnaire was given a score, where the score was 4 (always), 3 (often), 2 (sometimes), and 1 (never). The total value was then categorized based on good family support (≥76%), moderate family support (≥56 - 75%), lack of family support (<56%). Anxiety questionnaire used Zung-Self Rating Anxiety Scale (ZSRAS) with a value Cronbach alpha of 0.850 (Ernawati, 2016). The ZSRAS questionnaire consisted of 23 statements that described the individual level of anxiety, where the higher the score, the level of anxiety is also more severe (no anxiety: 20-44; mild: 45-59; moderate: 60-74; severe: 75-80). The resilience questionnaire used the Connor-Davidson Resilience Scale (CD-RISC) with a Cronbach alpha value of 0.870 (Yunitasari, 2016). The total value obtained was present and categorize as high (76-100%), sufficient (51-75%), and low (≤50%).

2.5 Procedure

This research was conduct at the Regional General Hospital of Prof. Dr. W.Z. Johannes Kupang in Mutis Ward and Oncology Clinic for three weeks, starting from 15 November to 06 December 2019. Two nurses were involved in this study after received an explanation of the objectives and research procedures. Data collection was carried out after the participants met the inclusion criteria and then signed informed consent. The questionnaire then filled out by each participant, and researchers and the team accompanied them. The completed questionnaire then checked before completing the tabulation.

2.6 Analysis

Data were analyzed using the PASW Statistics 18 program. Data analysis was performed through descriptive and inferential analysis. The descriptive analysis uses frequency distribution to describe the characteristics of respondents. Inferential analysis using Spearman's Rho analysis with a confidence interval of 95%, alpha (α) = 5%.

2.7 Ethical Clearance

The study protocol was reviewed and obtained ethical eligibility from the Airlangga University Faculty of Nursing Ethics Committee with No.1826-KEPK on 14 November 2019.

3. RESULT

Table 1 shows the majority of participants in this study were late adults with the age range of 36-45 years, with a total of 36 people. 73 participants (73%) of their marital status

Table 1. Distribution of Respondents based on demographic characteristics (n = 100)

Characteristics	Number of respondents	
	n	%
Age		
Early adult (26-35)	16	16
Late adult (36-45)	36	36
Early elderly (46-55)	29	29
Late elderly (56-64)	19	19
Marital Status		
Married	73	73
Un Married	15	15
Widow	12	12
Occupation		
Housewives	47	47
Teachers	12	12
Health workers	7	7
Traders	8	8
Farmers	5	5
Civil servants	15	15
Others	6	6
Financing		
National health insurance	100	100
Type of cancer		
Breast cancer dekstra	59	59
Breast cancer sinistra	40	40
Breast cancer dekstra + sinistra	1	1
Stage of cancer		
Stage I	3	3
Stage IIA	17	17
Stage IIB	31	31
Stage IIIA	39	39
Stage IIIB	7	7
Stage IV	3	3
Chemotherapy cycles		
1	18	18
2	27	27
3	14	14
4	13	13
5	6	6
>5	22	22

were married, with a total of 47 patients were housewives. In this study, most of the participants suffer from dexterous breast cancer, which was 59 patients (59%) with the most chemotherapy cycles had been undertaken by two cycles, with a total of 27 participants (27%). The stage of cancer that suffered by most of the respondents was stage IIIA with a total of 39 people (39%), then followed by stage IIIB with 31 people (31%) and stage IIA with the amount of 17 respondents (17%). The cost of chemotherapy for all participants (100%) was borne entirely by the government through national health insurance.

Table 2 shows the majority of participants have high hardiness, around 58%. Statistical test results with Spearmen's Rho obtained the value of $p = 0.002$ ($\alpha \leq 0.05$) which means there is a relationship between hardiness and resilience; ($r=0.310$), meaning that the strength of the relationship is low. The higher hardiness of breast cancer patients means the higher of resilience during chemotherapy.

The majority of participants have a secondary education level with a total of 43 people (43%). The statistical test results with Spearman's rho obtained $p = 0.000$ ($\alpha \leq 0.05$) means that there is a relationship between education level and the resilience of breast cancer patients undergoing chemotherapy. Value of $r=0.416$, meaning that the strength of the relationship is low. The higher level of education obtained by breast cancer patients means higher resilience during chemotherapy.

The majority of participants have low economic status with a total of 55 people

Table 2. Relationship of hardiness, education, economic status, side effects of chemotherapy, family support, and anxiety with the resilience of people with breast cancer undergoing chemotherapy (n = 100)

Variables	Resilience				Total		p	r
	Moderate		High					
	n	%	n	%	n	%		
Hardiness								
Low	22	22	20	20	42	42		
High	13	13	45	45	58	58	0.002	0.310
Total	35	35	65	65	100	100		
Education level								
Elementary	13	13	9	9	22	22		
Secondary	19	19	24	24	43	43	0.000	0.416
Higher	3	3	32	32	35	35		
Total	35	35	65	65	100	100		
Economic Status								
Low	28	28	27	27	55	55		
High	7	7	38	38	45	45	0.000	0.369
Total	35	35	65	65	100	100		
Side Effects of Chemotherapy								
Mild	0	0	15	15	15	15		
Moderate	18	18	31	31	49	49		
Severe	17	17	19	19	36	36	0.004	0.283
Total	35	35	65	65	100	100		
Family Support								
Lack	33	33	22	22	55	55		
Good	2	2	43	43	45	45	0.000	0.579
Total	35	35	65	65	100	100		
Anxiety								
No Anxiety	30	30	49	49	79	79		
Mild	5	5	16	16	21	21	0.231	0.121
Total	35	35	65	65	100	100		

(55%). Statistical test results with Spearmen's rho obtained the value of p = 0.000 (α ≤ 0.05) which means there is a relationship between economic status and resilience; (r = 0.369), meaning that the strength of the relationship is low. The higher economic status in breast cancer patients means higher resilience during chemotherapy.

The majority of participants experienced moderate side effects, with a total of 49 people (49%). Respondents who experienced severe side effects (36%). The statistical test results with Spearman's rho obtained p-value = 0.004 (α ≤ 0.05) means there is a relationship between the side effects of chemotherapy with the resilience of breast cancer patients undergoing chemotherapy. The value of r=-0.283 means the strength of the relationship is low. The low side effects of chemotherapy experienced by breast cancer patients make higher resilience during chemotherapy.

The majority of participants received a lack of family support (55%). Those who received family support in the good category were 45 people (45%). Statistical test results with Spearman's rho obtained p=0,000 (α ≤ 0.05) which means there is a relationship between family support and resilience. A value of r = 0.579 indicates the strength of a strong relationship. The more family support received by breast cancer patients means the higher of resilience during chemotherapy.

The majority of participants did not experience anxiety (79%); some experienced mild anxiety was (21%). Statistical test results with Spearmen's Rho obtained p-value 0.231 (α ≤ 0.05) which means there is no relationship between anxiety and resilience.

4. DISCUSSION

The most widely performed management of breast cancer is chemotherapy (Halimatussakdiah & Junardi, 2017).The process of giving chemotherapy requires a long time and caused miscellaneous side effects, this means strong physical and mental conditions are vital to deal with this

(Sana *et al*., 2016). Side effects that accompany chemotherapy make the majority of patients who have been diagnosed with cancer filled with anxiety and fear of facing death and pain during therapy (Matzka *et al.*, 2016; Gerber, 2017).

The majority of participants with high hardiness showed high resilience. Conversely, participants with low hardiness have enough resilience in the category. High hardiness associated with cancer resilience undergoing chemotherapy. Participants with high hardiness have strong personalities, stable and optimistic to deal with conditions that cause stress and perceive life events that potentially cause stress as something that is not too threatening (Kobasa in Sari, 2014). Hardiness considered a major factor in the relationship between stress and health (Bahrami et al., 2018).Women with cancer with high hardiness are more committed to improving their quality of life, responding better to the symptoms of unexpected illness and treatment of disease, and have more control over their lives. They also have a greater ability to adapt to changes associated with the illness (Bahrami et al., 2018).

The results showed that the majority of respondents had high hardiness. Various kinds of chemotherapy effects have an impact on the physical and psychological of the cancer patient. Individuals with high hardiness will be addressed as something that must be pass with pleasure. Participants who have good coping mechanisms proven that they were not easily blaming themselves when a problem occurs and being able to express what is felt. The majority of participants felt that the difficulties they faced were not more than others, and did not make their inability to do something or a problem as a source of anxiety.

High hardiness is significantly associated with high social support (Somasundaram and Devamani, 2019). The results of this study indicate there was good family support for breast cancer patients during the chemotherapy process. Thus, it will affect the respondent's view of chemotherapy as a change in her life and consider it as something that must be enjoyed and does not consider the pain and treatment she was undergoing as a cause of losing the love of those around her. This evidenced by the findings that participants with low hardiness have high resilience because they have good family support.

The ability to deal with stress was obtained by personal and cognitive ability. Things that affect cognitive abilities is the level of education (Priasmoro, 2016). The mindset is influenced by education level, the higher education obtained by cancer patients means better quality of life and health (Anggraini, 2017). The level of education also affects one's compliance. The lower level of education, the more disobedient patients with treatment because of the low education of a person affects the absorption in receiving information (Budiman, Khambri and Bachtiar, 2013). The higher level of a patient's education, the more life experiences she goes through make her better prepared to face problems that will occur (Perdana et al., 2013).

Cognitive skills have a crucial effect on individual resilience (Priasmoro, 2016). Here, cognitive ability is what functions to release the mind from trauma by using fantasies and hopes that grown on the individual concerned to improve psychological well-being. This study found that not only the majority of participants with secondary and higher education level had high resilience, but also those with higher education who had resilience in the sufficient category. The condition occurred because respondents experienced side effects of chemotherapy in the moderate category and suffered from advanced-stage breast cancer.

National health insurance is part of the national social security system in Indonesia which is implemented by using social health insurance that is required (mandatory) based on Law number 40 of 2004 concerning national social security system to meet the health needs of people who need to be provided to everyone who has paid contributions or whose contributions are paid by the government (Kemenkes, 2014). Although the cost of chemotherapy for all participants was borne by the national health insurance, they also need additional costs for fulfilling their nutrition, recovery process after chemotherapy and transportation conditions, especially for participants who live far from the hospital. This is in line with the statement of Peterson, S.J & Bredow

(2013) that one of the risk factors that influence resilience is the background of unfavorable family socio-economic conditions. Risk factors are factors that directly increase the potential risk for individuals who can then increase the likelihood of developing maladaptive behaviors and lifestyles. Cancer is a leading cause of death in the world with a problem of considerable economic burden. The large impact on financing can be seen from the cost of primary care (including home care), outpatient hospital, and inpatient hospital care such as medicine, oncological care, radiation therapy, diagnostic, and laboratory costs (Kovacevia, A, Dragojevic-Simic V, Rancic N, Jurisevic M, 2015). Economic status, one of which is income is the main requirement to be able to enjoy health facility services to improve one's health. With this effect, it can increase the scale of function in cancer patients by treating it (Lusiatun, Mudigdo, and Murti, 2016).

This research found out that the majority of participants have income less than the minimum wage, which is around IDR1,795,000. It is also known that most of them were housewives, who have no other source of income, only from their husbands. The majority of participants with high economic status have high resilience. Monthly income, as one of the Economic factors, is the main requirement to be able to enjoy health facility services to improve one's health. With this effect, it can increase the scale of function in cancer patients by taking care and treatment (Lusiatun, Mudigdo, and Murti, 2016). Only a small proportion of respondents received financial assistance from families in health monitoring and treatment. The need for accommodation costs during the treatment and implementation of chemotherapy measures that it has been carried out for a long time certainly becomes a burden for participants and a source of stressor, especially those who live far from the chemotherapy service. The research results of Halimatussakdiah & Junardi (2017) also showed a significant relationship between costs and chemotherapy adherence in breast cancer patients during the chemotherapy process. The distance of residence, which is far from the hospital can cause patients to be less compliant or postpone the chemotherapy schedule planned by the medical team. This factor also causes cancer patients to want to try alternative treatments and ultimately lead to metastases and complications in other organs.

The majority of respondents experienced side effects of chemotherapy in the moderate and severe categories. The most common effects of chemotherapy experienced by respondents were nausea, skin and nail problems, loss of appetite, hair loss, tingling in the hands and feet, weight loss, feeling weak and tired. Participants also complained have sleep disorders, frequent headaches, and sexual disorders. Participants with mild side effects of chemotherapy showed to have high resilience. Non-physical fatigue such as unstable emotions, feelings of depression, lethargy, feeling worthless, loss of interest causes a lack of enthusiasm to participate in physical activity (Cordero et al., 2015; Levkovich et al., 2017). Patients with weak conditions due to the side effects of chemotherapy cause maladaptive coping strategies so that it affects resilience. The results of this study indicate that the side effects of chemotherapy have the weakest relationship with resilience. This resilience can be obtained by the amount of family support and the hardiness of the personality possessed by respondents. Families who always provide emotional support will make patients feel they have and rely on their families during chemotherapy. The majority of participants had undergone chemotherapy more than 3 times, had anticipated the side effects of chemotherapy that would occur.

Family support is a part of social support consisting of emotional support, appreciation or assessment support, instrumental and informative support (Setyaningsih, 2011). Families that can carry out the health care function for sick families can help their family members achieve better physical and psychological conditions. The existence of family support makes it easier for patients to do their activities related to the problems faced, feel loved, can share burdens, express feelings openly, and can help various problems that occur. Family support will have an impact on the patient's confidence in dealing with the process of treating the disease (Misgiyanto & Susilawati, 2014).

In this study, family support had the strongest relationship with respondent resilience during the chemotherapy process. The majority of respondents with good family support have high resilience. Support received by patients, especially from their family will make patients feel cared for and not alone in undergoing chemotherapy (Kirana, 2016). Family support is very important in motivating patients during chemotherapy (Sudiyanti, 2017). In Indonesia, a country with a large family structure, family ties are much stronger so that it becomes dependent on the family for illness more in line with the culture (Effendyet al., 2015). Family support always obtained by the form of appreciation, presence, and motivation can help the psychological condition of the participants to stay enthusiastic in undergoing chemotherapy. All participants, who received good family support have a high resilience. Maryati's research result in (Sugo, 2019) shows that someone who gets family support can avoid the temptation to disobey and often becomes a support group to achieve compliance. Woman who suffers from breast cancer and have the family support, are more eager to undergo chemotherapy so that it can help the healing process (Sugo, 2019). Support provided by the family will also increase patient confidence in changes after chemotherapy (Mayangsari, Sumara and Yunitasari, 2019).

According to Friedman (2010), emotional support provided by families can provide a sense of comfort, a sense of being cared for, and loved, assisting in the form of enthusiasm and attention, and individuals who receive such support will feel valued. Friedman also explained that what is included in instrumental support such as physical support, material support in tangible forms like finance is essentially a condition where the object or service can help solve the problem at hand. This support demonstrated by family assistance to patients when they go to the hospital to control or meet the chemotherapy schedule. The family emotional support that is shown through the expression of sympathy, giving attention to affection, appreciation, and togetherness will make individuals feel calm in the face of various unpleasant conditions, including chemotherapy.

Families search for information in four ways, including assisting when in control, making an appointment to meet the health workers, and directly seeing health workers(Kusumaningrum et al., 2016). The findings in this study indicate that the majority of families accompany the patients when consulting a health worker to get chemotherapy and deliver to the clinic or hospital during treatment or illness. Some participants whose families did not seek information about chemotherapy from other media such as magazines, books, and the internet stated that they would prefer to get information from health workers because the information from the media would increase anxiety..stated Among patients' families, only a small percentage did not want much information (Kusumaningrum et al., 2016).

The psychological well-being of individuals can increase feelings of self-acceptance so that individuals are more easily adapt to stress or resilience (Sagone, Elisabetta & De Caroli, 2014). Most breast cancer patients experience emotional distress in the form of anxiety (Dimitrovska et al., 2015). According to Kaplan and Sadock in Setiawan(2015), factors that influence anxiety include intrinsic factors and extrinsic factors. Intrinsic factors are the patient's age, the patient's experience during treatment, self-concept, and role. Extrinsic factors are medical diagnosis (disease diagnosis), education level, access to information, adaptation processes, socio-economic status, types of chemotherapy, and therapeutic communication.

The findings of this study indicate that the majority of participants who experienced mild anxiety were those with age less than 46 years and experienced severe chemotherapy effects. Anxiety disorders are more common in adult women in the age range of 21-45 years (Setiawan, 2015) The majority of cancer patients undergoing chemotherapy do not experience anxiety, which is as much as 79%, and those who have undergone three cycles of chemotherapy were 55 participants. This makes participants have the knowledge and experience during chemotherapy so that they are no longer regard chemotherapy as something frightening and miserable. By the

end, the knowledge and experience gained by participants will reduce the level of anxiety during the chemotherapy process. Thus, the insignificant relationship between anxiety and resilience is possible because respondents' knowledge and experience in undergoing chemotherapy contribute to increasing resilience. Placement in the same room when the implementation of chemotherapy measures provides an opportunity to share experiences with other patients who managed to survive and live their daily lives well so that makes participants more eager to continue optimistically about treatment because this group provides a real picture of the success of cancer treatment.

5. CONCLUSION

The majority of breast cancer patients have high resilience during chemotherapy. Hardiness, education level, economic status, side effects of chemotherapy, and family support show a relation with the resilience of breast cancer patients undergoing the treatment. Meanwhile, anxiety shows no relation to resilience. Other factors such as age and the frequency of chemotherapy also influence resilience. Further researchers can develop nursing interventions to reduce the side effect of chemotherapy in breast cancer patients to increase resilience.

6. ACKNOWLEDGEMENT

We would like to thank all the respondents who contributed to this study. This work also supported by the head and all nurses in Mutis ward, Oncology Clinic, especially all parties who made a great contribution to this study.

7. CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

8. REFERENCES

Anggraini, M. (2017). 'Relationship of Compliance Undergo Chemotherapy with Quality of Life of Cervical Cancer Patients in Dr. Moewardi Surakarta'. Electronic Theses and Dissertations

Bahramil, M. (2018). 'Hardiness and Optimism in Women with Breast Cancer'. doi: 10.4103/ijnmr.IJNMR.

Budiman, A., Khambri, D. and Bachtiar, H. (2013). 'Affecting's factor to Medication Adherence of Patient With Tamoxifen After Surgery'. Jurnal FK Andalas 2(1), pp. 20–24.

Cordero, E.D., Dimsdale, J.E., & Navarro, A.M. (2015). 'Feeling "Pooped'' and 'Run down?': Fatigue experiencesin latino Cancer Patients'. Journal off Applied Biobehavioral Research.

Deshields, T, Heiland F, Kracen, Amanda C, Dua, Priya (2016). 'Resilience in adults with cancer : development of a conceptual model'. pp. 11–18.

Dimitrovska, G. R., Stefanovski Petar., Smichkoska, Snezhana, Raleva, Marija., Dejanova, &Beti. (2015) 'Depression and Resilience in Breast Cancer Patients', 3(4), pp. 661–665.

Dubey, C., J. Maria, C. Hoeppli (2015a). 'European Journal of Oncology Nursing Resilience and unmet supportive care needs in patients with cancer during early treatment : A descriptive study', European Journal of Oncology Nursing. Elsevier Ltd, pp. 1–7. doi: 10.1016/j.ejon.2015.03.004

Dubey, C., J., Maria, C & Hoeppli (2015b). 'European Journal of Oncology Nursing Resilience and unmet supportive care needs in patients with cancer during early treatment : A descriptive study', European Journal of Oncology Nursing. Elsevier Ltd, 19(5), pp. 582–588. doi: 10.1016/j.ejon.2015.03.004

Effendy, C. Vissers, K. & Osse, Bart. (2014). '"Comparison of Problems and Unmet Needs of Patients with Advanced Cancer in a European Country and an Asian Country"', Pain Practice, 15(5), pp. 433–440.doi: 10.1111/papr.12196.

Ernawati, A. (2016). Effect Of The Power Of Dhuha On Anxiety Reduction In Breast cancer Patients At Integrated Oncology Clinic, Dr.Soetomo Hospital, Surabaya.Universitas Airlangga.

Friedman.M (2010). Buku Ajar Keperawatan Keluarga: Riset Teori dan Praktek.5th

edn. Jakarta: EGC

Gerber, L. H. (2017) 'Cancer-Related Fatigue', Physical Medicine and Rehabilitation Clinics of North America. Elsevier Inc, 28(1), pp. 65–88. doi: 10.1016/j.pmr.2016.08.004.

Halimatussakdiah & Junardi. (2017).Risk Factors For Chemotherapy Compliance In Breast Cancer Patients, Jurnal Kesehatan, pp. 415–424.

Kementerian Kesehatan RI. (2014). Handbook on Socialization National Health Insurance (JKN) in the National Social Security System. Jakarta: Ministry of Health of the Republic of Indonesia

Kementerian Kesehatan RI. (2018). Main Results Basic health research 2018. Jakarta: Ministry of Health of the Republic of Indonesia

Kirana, L. A. (2016). Social Support and Resilience in Breast Cancer Patients (Case Study of Breast Cancer Patients On Chemotherapy). PSIKOBORNEO. 4(4), pp. 829–837.

Kovacevia, A, Dragojevic-Simic V, Rancic N, Jurisevic M, J. M. (2015) End-Of Life Cost of Medical Care for Advancedstage Cancer Patiens. US National Library of Health.

Kusumaningrum, T., Pradanie,R., Yunitasari,Esti., Kinanti, Sih. (2016). 'The Role of Family and Quality of Life in Patients with Cervical Cancer'. Jurnal Ners, 11(1), pp. 112–117

Levkovich et al (2017) 'The experience of Fatigue in Breast Cancer Patients 1-12 Month Post Chemotherapy: A Qualitative study.', Behavioral Medicine.

Lusiatun., Mudigdo,A. & Murti,B. (2016). The Effect of Self-Efficacy, Family Support, and Socio-Economic Factors on the Quality of Life of Patients with Breast Cancer at Dr. Moewardi Hospital, Surakarta

Matzka, M., H. Mayer., Sabine, K., Katherina Dubey., Patrick, Jhan. (2016) 'Relationship between Resilience , Psychological Distress and Physical Activity in Cancer Patients : A Cross-Sectional Observation Study', 2(163), pp. 1–13. doi: 10.1371/journal.pone.0154496.

Mayangsari, W. I., Sumara, R. & Yunitasari, E. (2019) 'The Relationship between Family Support and Self-esteem among Cervical Cancer Patients Undergoing Chemotherapy', pp. 6–10.

Min, J. et al. (2013) 'Psychological resilience contributes to low emotional distress in cancer patients', pp. 2469–2476. doi: 10.1007/s00520-013-1807-6.

Misgiyanto & Susilawati, D. (2014). The Correlation between family Support With The Level Of Anxiety Of Patients With Palliative Cervical Cancer. 5 (Anggrek I), pp.1–15. https://doi.org/10.22219/jk.v5i1.1855

Mudigdo, A. and Murti, B. (2016) 'The Effect of Self-Efficacy, Family Support , and Socio-Economic Factors on the Quality of Life of Patients with Breast Cancer at Dr. Moewardi Hospital, Surakarta', 1(3), pp. 182–194.

Nuwa, M. (2018). 'The Influence of Age and Coping Mechanism on The Resilience of Cancer Patients Undergoing Chemotherapy'. The 9th International Nursing Conference 2018.pp.28-36

Nursalam (2016) 'Metodologi penelitian Ilmu keperawatan: Pendekatan kritis.' 4th edn. Jakarta: Salemba Medika.

Perdana,A., Ichsan,B.& Usdiana,D. (2013). 'Relationship of Knowledge Levels of DM with Sugar Control in Type II Patients at RSU PKU Muhammadiyah Surakarta', Biomedika, 5 (2). https://doi.org/10.23917/biomedika.v5i2.265

Peterson, S.J & Bredow, T. (2013). 'Middle Range Theories: application to nursing research. 3rd edn. Edited by L. W. & Wilkins. Philadelphia New York: Wolters Kluwer Health

Priasmoro.(2016). 'Effect of Personal Ability on Resilience (Study of Parents Who Have Children with Down Syndrome'. Health Journal Hesti Wira Sakti, pp. 7–11.

Sagone, Elisabetta & De Caroli, M. (2014).

'Relationship Between Psychological Well-Being and Resilience in Middle and Late Adolescents', Social and Behavioral Sciences.

Sana., Begum,N., Mutha,S., Marda,S.& Bakshi, Vasudha. (2016) 'Assessment of Psychological impact of Breast cancer in Woman.', International Journal of Applied Pharmaceutical Sciences and Research, pp. 119–126.

Sari (2014). 'Relationship between Social Support and Hardiness in Adolescents Living in Orphanages'. Universitas Islam Negeri Sultan Sarif Kasim. Riau

Setiawan, S. D. (2015). 'The Effect Of Chemotherapy In Cancer Patient'., pp. 94–99. Universitas Sebelas Maret Surakarta.

Setyaningsih (2011). 'Relationship between family emotional support and resilience with cancer patient's anxiety on chemotherapy in RSUD dr. Moewardi Surakarta'. Universitas Sebelas Maret Surakarta

Somasundaram, R. O. and Devamani, K. A. (2019) 'A Comparative Study on Resilience, Perceived Social Support and Hopelessness Among Cancer Patients Treated with Curative and Palliative Care', pp. 135–140. doi: 10.4103/0973-1075.179606.

Sudiyanti, E. (2017). 'Relationship of Family Support Against Coping Mechanisms in Cervical Cancer Patients Undergoing Chemotherapy at RSUD Dr. Moewardi'. Universitas Muhammadiyah Surakarta

Sugeng. (2016). Relationship Between Resilience With Anxiety Levels Of Cancer Patients VII, Jurnal Penelitian Kesehatan Suara Forikes. pp. 149–155.

Sugo, M. (2019). Coping strategy Factors In Cancer Patients Undergoing Chemotherapy. Pediomaternal Nursing Journal, 5(1) pp 99-108

WHO (2017). Available at: http://www.who.int/mediacentre/factsheets/fs297/en/ [Acessed June 11,2019].

WHO (2019). Available at: https://www.who.int/cancer/prevention/diagnosis-screening/breast-cancer/en/#.XOiuz8LMP-s.email. [Acessed June 11,2019].

Yunitasari, E. (2016). The Development Of Coping-Roy's Adaptation Nursing Care Model To Increase The Resiliency Of Post Radical Hysterectomy + BSO Cervical cancer Patients Who Received Chemotherapy. Universitas Airlangga Surabaya.