Relationship Between Type of Treatment and Resilience in Breast Cancer Patients

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Abstract: The treatment undergone by patients causes various side effects that affect psychological and resilience. Low resilience can impact the treatment process and, if left unchecked, can lead to higher mortality rates due to cancer. High resilience indicates the ability to adapt well to the side effects of ongoing treatment. This study aims to investigate the relationship between various types of treatments and resilience in breast cancer patients. The study uses a quantitative approach with a cross-sectional method. Sample calculation using the Lemeshow proportion estimation formula resulted in 112 respondents selected through purposive sampling based on inclusion and exclusion criteria, namely breast cancer patients undergoing treatment: surgery, chemotherapy, radiotherapy, and hormone therapy at Kemenkes RS Persahabatan. Respondent characteristics were assessed using observation sheets, and resilience was measured using the Connor-Davidson Resilience Scale 25 (CD-RISC 25). All variables in this study are categorical; thus, chi-square analysis and, for contingency tables larger than 2x2 with expected frequencies less than 5, Fisher's exact test were applied. The results of this study showed a significant relationship between the type of treatment and resilience in breast cancer patients, with a p-value of 0.002 (<0.05). Similarly, one of the respondent characteristics based on cancer stage showed a significant relationship with resilience (p = 0.016). Breast cancer patients undergoing treatment showed very high resilience levels, which were estimated based on age, duration of treatment, marital status, education level, and cancer stage. Breast cancer patients undergoing treatment require support during their chosen or ongoing treatment to maintain high resilience.

INTRODUCTION

Breast cancer occurs when cells in the body undergo changes in both form and function. According to Purba and Siahaan (2023), a malignant tumor in breast tissue is also known as carcinoma mammae. Although the exact cause of breast cancer is not known, many risk factors are associated with its development, including gender, age, family history, physical activity, obesity, alcohol consumption, smoking, and intake of fatty foods (Stanisławek, 2021). Breast cancer predominantly occurs in women compared to men, with a proportion of 5.7 women per 1,000 people and 2.9 men per 1,000 people (Elmika, 2020). According to Depkes RI (2016), the productive age for women is between 15 and 49 years. Reproductive age is related to pregnancy, childbirth, and the health of reproductive organs such as the breasts, cervix, and vagina. Risk factors for breast cancer include early menarche (before age 12),

having 1-2 pregnancies, a first pregnancy at age 30 or older, and not breastfeeding. Therefore, the probability of these women developing breast cancer is 0.968. In Indonesia, breast cancer is the most prevalent kind of disease and one of the main causes of mortality. With 396,914 cases, it is the most common type of cancer in Indonesia (Kementrian Kesehatan RI 2022). 65,858 instances, or 16.6% of Indonesia's total cancer cases, are alarming due to the high mortality rate. According to the data, according to WHO (2022), in 2020, there were 234,511 cases of deaths in Indonesia due to cancer.

The high number of cancer cases among patients indicates the need for effective breast cancer control. To treat breast cancer, there are five types of treatments: surgery, radiation therapy, chemotherapy, hormone therapy, and targeted therapy (Trayes & Cokenakes, 2021). Several studies indicate that 83% of breast cancer patients opt for surgical treatment. The goal of this surgical procedure is to remove metastatic tumors associated with breast cancer, with potential side effects including pain, swelling in the surgical area, and the formation of scars (hematoma). Additionally, 83.13% of breast cancer patients undergo chemotherapy treatment, aimed at eliminating residual cancer cells that were undetected during surgery or cancer cells that have spread but remain unidentified despite scans. Aslam et al. (2014) It is stated that the highest side effects are weakness, fatigue, nausea, hair loss, and vomiting, each at 95%, 90%, 77%, 76%, and 75%, respectively. In another study involving 431 patients undergoing radiation therapy, 151 patients (35.0%) experienced it. Radiation therapy aims to maximize the radiation dose to abnormal cancer cells and minimize exposure to nearby normal cells or those in the radiation path. Some reported side effects of radiation therapy include acute dermal toxicity, complications affecting the central nervous system (CNS), dry mouth (xerostomia), and cardiac abnormalities (Fitriatuzzakiyyah et al., 2017). And a total of 231 patients (53.6%) underwent hormone therapy treatment. The goal of hormonal therapy is to prevent estrogen and estrogen-dependent pathways from interacting to produce tumor cells. Effects include changes in the menstrual cycle, vaginal irritation, discharge, joint and muscle discomfort, as well as nausea and fatigue (Febrianty, 2022). And there were 47 cancer patients (10.9%) undergoing targeted therapy treatment. Targeted therapy aims to halt the growth and spread of cancer cells while preserving healthy cells. Possible side effects of targeted therapy for cancer include heart damage leading to heart failure, swelling in the limbs, shortness of breath, and digestive disturbances (Crumpei, 2015; Alifiyanti, Hermayanti, and Setyorini, 2017; Zhou et al., 2022; Zhou, Ning, Wang, Wang, et al., 2022).

In addition to causing physiological effects from the side effects of cancer treatment, it can also have psychological impacts such as self-esteem issues and patient well-being disruptions like anxiety (Pratiwi, Widianti, and Solehati, 2017). According to Oetami, Thaha, and Wahiduddin (2014) research on the psychological effects of breast cancer and its treatment, patients express their powerlessness by crying (68.0%), feeling no shame about having breast cancer (72.0%), experiencing decreased self-esteem resulting in pessimism about life (80.0%), not experiencing stress (64.0%), and not reacting with anger by disliking treatment (64.0%). Anxiety, in the form of worrying about treatment effects, is prevalent (84.0%). Anxiety in breast cancer patients can increase pain, disrupt sleep, and escalate nausea and vomiting during treatments like chemotherapy, affecting their quality of life. Anxiety felt by cancer patients during treatments like chemotherapy can adversely affect medical and psychological rehabilitation processes, potentially leading patients to discontinue treatment. If breast cancer patients choose to discontinue treatment, it may result in cancer recurrence with wider metastasis, increasing mortality and morbidity rates. Therefore, patients undergoing treatment require resilience to adapt to the effects of their ongoing therapy.

An individual's capacity to handle adversity is known as resilience. It involves enduring, rising above, and adapting to difficult situations (Merlitha & Oktaviana 2018). Resilience is related to health, considering that improved health is frequently linked to increased levels of resilience. It entails making an attempt to get past upsetting or painful experiences and using them as teaching moments to heal swiftly (Walton & Lee, 2023). Resilience is considered a crucial factor to assess at the time of breast cancer diagnosis to identify patients needing psychological support early (Zhou, Ning, Wang, & Li, 2022). Resilience is the key to a healthy and productive life. For individuals with cancer, resilience becomes crucial. This is because the desire, belief, and effort to adapt to their condition come from

within the individual, thereby positively impacting the progress of their treatment (Saputri & Valentina, 2018).

It can be stated that resilience is a positive way for someone to overcome difficulties and challenges they are facing, using their abilities, skills, and insights. An individual is considered to lack good resilience if they cannot adapt to new environments, control their emotions, or benefit from adversity or illness. However, some studies indicate that resilience in breast cancer patients is still relatively low. A study conducted by Cerezo, Álvarez-Olmo, and Rueda (2022) shows that 73.8% of breast cancer patients exhibit low resilience. Additionally, another study by Baeda and Nurwahyuni (2022) shows that patients undergoing chemotherapy treatment have low resilience (27.4%). Low resilience in patients undergoing treatment indicates that they struggle to overcome the challenges they face during treatment (Baeda & Nurwahyuni, 2022). According to research conducted by Merlitha and Oktaviana (2018) among 78 breast cancer patients undergoing chemotherapy treatment, 33 patients, or 42.3%, had low resilience, while 45 patients, or 57.6%, had high resilience. It suggests that individuals with breast cancer who are receiving chemotherapy generally have a high level of resilience.

The treatment undergone by patients results in various side effects that impact their psychological state and resilience. Low resilience in cancer patients will affect the treatment process; if left unchecked, it can lead to higher mortality rates due to cancer. According to the research, cancer patients' low resilience can be caused by a number of circumstances, including the kind of treatment they get. There is, however, a paucity of particular studies on the association between treatment type and patients' resilience to breast cancer. Existing studies often use different instruments, making it difficult for researchers to compare results across studies. This indicates a gap in research regarding treatment types and resilience, especially those using similar instruments. Therefore, it is necessary to conduct in-depth analysis and verification of the relationship between treatment types and resilience in breast cancer patients. This will provide insights into the resilience levels of breast cancer patients undergoing treatment, enabling stakeholders to create programs aimed at enhancing resilience for those with very low resilience.

METHOD

The method used in this study is quantitative. In order to examine the link between two variables using a cross-sectional method, researchers used a correlational research design. The study aims to analyze the relationship between treatment types and resilience in breast cancer patients. It involved breast cancer patients at Kemenkes RS Persahabatan undergoing cancer treatment, totaling 112 patients. Researchers obtained 112 samples using the Lemeshow proportion estimation formula as respondents and employed purposive sampling techniques to select samples based on specific considerations. Selection of samples was done according to inclusion criteria: (1) females with a breast cancer diagnosis; (2) breast cancer patients undergoing cancer treatment; (3) women of reproductive age between 15-49 years old; and (4) breast cancer patients capable of reading and understanding simple written texts and willing to participate as respondents. Exclusion criteria included: (1) women diagnosed with cancers other than breast cancer; and (2) women diagnosed with breast cancer but not undergoing cancer treatment (surgery, chemotherapy, radiation therapy, or hormone therapy). After being informed of the inclusion and exclusion criteria, eligible respondents who met the requirements submitted their agreement to participate in the study (informed consent).

Data collection was conducted in May 2024. Patient characteristics data were gathered using a demographic questionnaire covering age, duration of treatment, marital status, educational level, and cancer stage. The treatment type variable in this study was defined as the type of breast cancer treatment chosen by patients after diagnosis, recorded based on patients' medical records. The resilience variable in this study was defined as the psychological endurance of breast cancer patients in coping with their illness post-diagnosis and during the cancer treatment process. This variable was measured using the Connor-Davidson Resilience Scale 25 (CD-RISC 25) questionnaire, developed by Jrt et al (2018) and adapted by Okta Mahendra (2022) through translation into Indonesian as required by the researcher. The researcher obtained permission from relevant studies to use the measurement tool. The

questionnaire consists of 25 statements, with adaptation and pilot testing resulting in the removal of 2 items, leaving 23 items. The coefficient correlation values for each item on the resilience scale ranged from 0.352 to 0.689, and the Cronbach Alpha reliability coefficient was 0.892.

The collected data were analyzed using univariate and bivariate analyses. Univariate analysis examined respondent characteristics such as age, duration of cancer treatment, marital status, educational level, and cancer stage through frequency distribution. Bivariate analysis assessed the relationship between age groups and duration of cancer treatment with resilience using the chi-square test. Because of contingency tables larger than 2x2 and predicted frequencies less than 5, Fisher's exact test was used to determine the significance of marital status, educational attainment, and cancer stage. Since both variables are categorical, the link between treatment type and resilience was further examined using the Fisher's exact test. The categorical nature of the research variables led to the use of the chi-square and Fisher's exact tests. The p-value, a measure of the relationship's statistical significance, was one of the test parameters. P-values less than 0.05 ($p < 0.05$) were deemed significant, signifying a noteworthy correlation between the variables under investigation. We used Windows SPSS 26.0 to analyze the data. The research ethics committee of Kemenkes RS Persahabatan granted ethical approval for the study, which was carried out at the research site with approval letter number 007/KEPK-RSUPP/042024.

RESULTS

The research venue was selected as the Kemenkes RS Persahabatan. Located at Jalan Persahabatan Raya No. 1, RT.16/RW.13, Pisangan Timur, Pulo Gadung District, East Jakarta, Special Capital Region of Jakarta, is a category A general hospital. Patients with breast cancer can receive therapies from Kemenkes RS Persahabatan, such as hormonal therapy, radiation, chemotherapy, and surgery. Respondents who satisfied the preset inclusion and exclusion criteria were included in this study.

Table 1. Frequency Distribution of Respondent Characteristics

		frequency (n)	Percentage (%)
Age	< 40	53	47.3
	> 40	59	52.7
Length of Treatment	< 1 year	67	69.8
	> 1 year	45	40.2
Marital status	Marry	92	82.1
	Not married yet	5	4.5
	Death divorce	9	8.0
	Divorced	6	5.4
Level of education	Elementary school	10	8.9
	Junior high school	12	10.7
	Senior high school	60	53.6
	College	30	26.8
Cancer Stage	0	10	8.9
	I	12	10.7
	II A	33	29.5
	II B	6	5.4
	III A	25	22.3
	III B	10	8.9
	III C	5	4.5
	IV	11	9.8

There were no dropouts, and the data collected were complete and consistent with the research criteria. Samples were taken from various wards with breast cancer patients. The proportion of

respondents from each ward was randomly selected, with 112 respondents obtained from four wards: the outpatient clinic, one-day chemotherapy care, and two inpatient wards for internal diseases.

Table 1 shows that of the 112 respondents studied, the majority of breast cancer patients were over 40 years old, with 59 patients (52.7%). Regarding the length of treatment, the majority, 67 patients (69.8%), had undergone treatment for less than one year. In terms of marital status, most respondents were married, totaling 92 patients (82.1%). Concerning education level, 60 respondents (53.6%) had completed high school. Regarding the stage of cancer, the majority of respondents were diagnosed at stage II A, with 33 patients (29.5%), followed by stage III A, with 25 patients (22.3%).

In this study, based on the type of treatment in breast cancer patients, there were four types of treatment; surgery, chemotherapy, radiotherapy, and hormone therapy. Table 2 shows that the majority of 38 patients (33.9%) underwent chemotherapy as a breast cancer treatment. Then patients undergoing radiotherapy treatment were 29 people (25.9%), and patients undergoing hormone therapy treatment were 26 patients (23.2%). And patients who underwent surgical treatment were fewer, namely 19 patients (17.0%). Researchers stated that the majority of respondents underwent chemotherapy treatment. The following is complete data on the frequency distribution of patients by type of treatment:

Table 2. Frequency Distribution of Types of Treatment

		frequency (n=112)	Percentage (%)
Types of Treatment	Surgery	19	17.0
	Chemotherapy	38	33.9
	Radiotherapy	29	25.9
	Hormone Therapy	26	23.2

Resilience has five component factors, namely personal competence, trust in one's instincts, positive acceptance of change and secure relationships, control and factors, and spiritual influences. However, this study did not examine the components of resilience. In this study, resilience is categorized into five categories, which in table 3 shows the frequency distribution of each category, with the majority of breast cancer patients having resilience in the very high category, as many as 28 patients (25.0%), followed by respondents who have very low and low resilience categories, namely 25 patients (22.3%). The least number of patients was in the moderate category, with as many as 11 patients (9.8%). The following is complete data on the frequency distribution of resilience in breast cancer patients:

Table 3. Frequency Distribution of Resilience

		frequency (n)	Percentage (%)
Resilience	Very low	25	22.3
	Low	25	22.3
	Currently	11	9.8
	High	23	20.5
	Very high	28	25.0

The association between respondent traits and resilience in patients with breast cancer is seen in Table 4. When the data were analyzed using the chi-square test, the length of treatment (P = 0.333) and age group (P = 0.448) both had p-values larger than 0.05. Similarly, Fisher's exact test analysis revealed a p-value greater than 0.05 in the groups for marital status (P = 0.073) and education level (P = 0.341). Therefore, there is no significant correlation between resilience and age, length of treatment, marital status, or educational attainment. However, Fisher's exact test analysis for the cancer stage group produced a p-value of 0.016 (p < 0.05), suggesting a substantial correlation between resilience and cancer

stage. The following provides complete data related to the relationship between respondent characteristics and resilience:

Table 4. Relationship between Respondent Characteristics and Resilience

Variable	Resilience										Total	P-Value
	Very low		Low		Currently		High		Very high			
	n	%	n	%	n	%	n	%	n	%		
Age												
<40	16	30.2	10	18.9	5	9.4	10	18.9	12	22.6	53	0.448
>40	9	15.3	15	25.4	6	10.2	13	22.0	16	27.1	59	
Total	25	22.3	25	22.5	11	9.8	23	20.5	28	25.0	112	
Length of Treatment												
<1 year	15	22.4	14	20.9	4	6.0	17	25.4	17	25.4	67	0.333
>1 year	10	22.2	11	24.4	7	15.6	6	13.3	11	24.4	45	
Total	25	22.3	25	22.3	11	9.8	23	20.5	28	25.0	112	
Marital status												
Marry	18	19.6	22	23.9	10	10.9	20	21.7	22	23.9	92	
Not married yet	4	80.0	1	20.0	0	0.0	0	0.0	0	0.0	5	0.073
Death divorce	0	0.0	1	11.1	1	11.1	2	22.2	5	55.6	9	
Divorced	3	50.0	1	16.7	0	0.0	1	16.7	1	16.7	6	
Total	25	22.3	25	22.3	11	9.8	23	20.5	28	25.0	112	
Level of education												
Elementary school	1	4.0	4	40.0	1	10.0	1	10.0	3	30.0	10	
Junior high school	1	8.3	3	25.0	0	0.0	6	50.0	2	16.7	12	0.341
Senior high school	13	21.7	13	21.7	8	13.3	9	39.1	17	60.7	60	
College	10	33.3	5	16.7	2	6.7	7	23.3	6	20.0	30	
Total	25	22.3	25	22.3	11	9.8	23	20.5	28	25.0	112	
Cancer Stages												
0	0	0.0	0	0.0	1	10.0	0	0.0	9	90.0	10	
I	1	8.3	2	16.7	2	16.7	2	16.7	5	41.7	12	
II A	8	24.2	7	21.2	2	6.1	12	36.4	4	12.1	33	
II B	1	16.7	2	33.3	0	0.0	1	16.7	2	33.3	6	0.016*
III A	6	24	7	28.0	3	12.0	5	21.7	4	14.3	25	
III B	3	30.0	2	20.0	2	20.0	1	10.0	2	20.0	10	
III C	1	20.0	3	60.0	1	20.0	0	0.0	0	0.0	5	
IV	5	45.5	2	18.2	0	0.0	2	18.2	2	18.2	11	
Total	25	22.3	25	22.3	11	9.8	23	20.5	28	25.0	112	

*significant at alpha 0.05 with Fisher's exact test

The relationship between type of treatment and resilience in breast cancer patients was investigated by bivariate analysis using the Fisher exact test. The analysis yielded a p-value of 0.002 (p < 0.05), leading to the rejection of H0 and the acceptance of Ha. This indicates a significant relationship between the

type of treatment and resilience in breast cancer patients. The complete data regarding the relationship between treatment types and resilience in breast cancer patients is at table 5:

Table 5. Relationship between type of treatment and resilience

Variable	Resilience										Total	P-Value
	Very low		Low		Currently		High		Very high			
	n	%	n	%	n	%	n	%	n	%		
Types of Treatment												
Surgery	2	10.5	1	5.3	1	5.3	4	21.1	11	57.9	19	
Chemotherapy	15	39.5	9	23.7	4	10.5	8	21.1	2	5.3	43	0.002*
Radiotherapy	3	10.3	11	37.9	2	6.9	6	20.7	7	24.1	33	
Hormone Therapy	5	19.2	4	15.4	4	15.4	5	19.2	8	30.8	30	
Total	25	22.3	25	22.3	11	9.8	23	20.5	28	25.0	112	

*significant at alpha 0.05 with Fisher's exact test

DISCUSSION

It is clear from this study's findings that most people with breast cancer are older than 40. This result is consistent with research by I Komang and Ida Bagus (2018), which shows that over 40-year-olds account for over 75% of cases of breast cancer. It also correlates with research by Sari (2021), which found that 80.4% of respondents with breast cancer were over 40. Compared to women under 40, those over 40 had a 1.35-fold increased risk of developing breast cancer. One in 69 women in the 40–49 age group will develop breast cancer. This is further supported by Suparna and Sari (2022), who found that the highest incidence of breast cancer occurs in the 40-49 year age group. Uswatun and Yuliyani (2016) also noted that the incidence of breast cancer rises rapidly during the reproductive years and continues to increase, albeit at a slower rate, afterward. Women over 30 years old have a higher likelihood of developing breast cancer, with the risk increasing until the age of 50 and continuing after menopause. The increased risk at reproductive age is thought to be related to exposure to estrogen and progesterone hormones that affect the breast. It can be interpreted that the older the woman, the greater the likelihood of breast cancer. Aging is linked to an increased risk of breast cancer, indicating that reproductive hormones produced by the ovaries and adrenal glands have a substantial impact on the growth of this disease.This is because hormone-unresponsive cancers do not show significant changes in incidence during a woman's reproductive period. Age increases one's chance of breast cancer.

Regarding the length of treatment in this research, most breast cancer patients, accounting for 69.8%, received treatment for less than one year. This corresponds to findings from Zhang et al., (2017) indicating that the majority of patients, specifically 78 individuals (79.6%), undergo treatment within the first year of diagnosis. Researchers did not find studies that showed the characteristics of the length of cancer treatment with breast cancer patients with a range of less than 1 year. However, this study illustrates that patients in this study who came to the health service, where the majority had undergone treatment for less than one year. The length of cancer treatment was obtained from the moment cancer was initially identified untill the current research time.

In this research, the majority of breast cancer patients were married, in line with the conclusions of earlier studies. Fradelos et al. (2017) reported a similar trend among their respondents diagnosed with breast cancer. Similarly, Celik, Çakir, and Kut (2021) also observed that a significant proportion of breast cancer patients were married in their study. Shi et al. (2022) further supported these findings, showing that 91.38% of the breast cancer patients in their research were married. According to Liu et al. (2019), married respondents were 52.01% more likely to develop breast cancer than unmarried respondents. Regarding education level, most respondents in the study had completed high school. This finding is in line with research (I Komang & Ida Bagus, 2018). The findings in this study state that the education

level of high school graduates is more at risk for breast cancer, but only show that breast cancer patients who come to undergo treatment at Sanglah Denpasar General Hospital are mostly high school graduates. In terms of cancer staging, the majority of breast cancer patients were in stage II, consistent with Li et al.'s (2016) research, where 66.25% of breast cancer respondents were diagnosed at this stage. However, researchers found that research conducted by Mahmuddin, Lestari, and Rizani (2020) showed that most of the respondents were in an advanced stage, namely stage III (78.7%).

Based on the type of treatment, it was found that the majority of respondents who underwent cancer treatment were of the chemotherapy treatment type. This aligns with research by Zhou, Ning, W. Wang, et al. (2022), which found that 88.3% of respondents primarily received chemotherapy treatment. In contrast, the Zickuhr (2016) study reported that only 23% of breast cancer patients underwent this form of treatment. And the least common cancer treatment option chosen or undertaken by patients is surgery. Then not much different research conducted by Ristevska-Dimitrovska et al., (2015) found that 31 (14.2%) underwent surgical treatment. The type of treatment undergone by breast cancer patients is based on the kind and stage diagnosed by the doctor. Destroying cancer or limiting the progression of the disease and relieving symptoms is one of the goals of this treatment.

Merlitha & Oktaviana (2018) define resilience as the ability to cope and adapt when facing difficult events or problems in life. Resilience is the ability that must be possessed by someone to adapt, be positive, and rise when faced with traumatizing events, able to prevent and reduce the damaging effects of a difficulty that is being faced. This resilience can prevent and minimize the effects that will arise from something that will cause pressure and difficulties that are being faced by breast cancer patients in good psychological condition. So that breast cancer patients remain in a good psychological condition and can undergo the treatment process well (Okta Mahendra, 2022). This study reveals that most cases of breast cancer patients exhibit very high resilience, with 28.0% falling into this category. This finding is consistent with research by Merlitha and Oktaviana (2018), who found that as many as 45 breast cancer patients have high resilience 57.6%. Individuals who have high scores in resilience tend to show better abilities than individuals whose resilience scores are low. Individuals with high resilience can overcome difficulties and trauma more effectively. In contrast, those with low resilience are more likely to view problems as burdens in their lives. Issues that are perceived as a hardship will cause them to feel more easily threatened and quickly frustrated.

For those who have a resilient personality, negative events felt by breast cancer patients will be a stepping stone for positive growth. The same thing was also stated by Sulistyarini, Nainggolan, and Mukaromah (2022), who state that there are three sources of resilience: individual strength (I am), external support (I have), and interpersonal ability (I can). Individual strength (I am) is resilience that contains a person's attitude, self-confidence, and feelings. Resilience can be improved when a person has inner strengths such as self-confidence, optimism, respect, and empathy. Interpersonal skills (I can) are abilities that the subject has, such as being able to communicate well with others and being able to manage feelings and impulses related to the disease they are experiencing, such as sharing stories with each other and not feeling depressed and stressed by the disease experienced, while external support (I have) is something that a person has, namely in the form of support that he has from family, friends, and people around him and having a good relationship to increase resilience.

Table 4 shows the correlation between respondent characteristics and resilience in patients with breast cancer. It shows that patients with an age greater than 40 years (47.3%), a length of treatment less than 1 year (69.8%), a marital status of married (82.1%), and a high school education level (53.6%) obtained very high resilience results and do not have a significant relationship with resilience in breast cancer patients. However, the analysis of respondent characteristics based on cancer stage showed a significant relationship with resilience, with a p-value of 0.016 ($p < 0.05$). This aligns with Elmika's (2020) research, which found that cancer stage can impact breast cancer patients' ability to bounce back, with higher cancer stages associated with lower resilience. According to Table 4, patients with stage IV have very low resilience (45.5%).

The association between treatment type and resilience in 112 breast cancer patients receiving cancer treatment was examined using a bivariate approach. The study found a significant relationship between

treatment type and resilience, with a p-value of 0.002 (p < 0.05). Among the patients, 39.5% who underwent chemotherapy had very low resilience. This is consistent with Merlitha and Oktaviana (2018) research, which reported that 42.3% of breast cancer patients had low resilience. Conversely, a study by Ni Kadek Widya Antari and Desak Made Ari Dwi Jayanti (2023) discovered that the majority of women receiving chemotherapy for breast cancer at the Chemotherapy Polyclinic of Sanglah Denpasar Hospital had high resilience, with 61.0% of 77 respondents exhibiting this trait. In this research, the overall resilience of breast cancer patients undergoing various treatments such as surgery, chemotherapy, radiotherapy, and hormone therapy showed a very high total resilience rate of 25.0%. The researchers deduced from these findings that breast cancer patients' resilience undergoing cancer treatment is predominantly high, this is related to the cancer treatment chosen and has been undertaken by patients after being diagnosed with breast cancer having high self regard. Patients who have high resilience will be able to survive grief and not show continuous negative moods. Resilience ensures that individuals have confidence in themselves in the face of various unpleasant circumstances, in this case, chemotherapy with its various side effects, due to various personal strengths (I am), interpersonal abilities (I can), and external support and sources (I have).

CONCLUSION

Based on the results of the foregoing discussion, it can be inferred that among the various characteristics of the respondents that were studied, it was found that there was no relationship between age, length of treatment, marital status, or education level with resilience. While one of the characteristics of respondents, such as cancer stage, has a relationship with resilience. An analysis of the relationship between treatment type and resilience found that there is a significant correlation between the type of treatment and resilience in breast cancer patients at Kemenkes RS Persahabatan. Future researchers are encouraged to use the study's findings as a foundation for additional studies with a larger sample size (> 112 respondents). It is recommended that health workers, especially in the oncology department and cancer treatment rooms such as chemotherapy, have more discussions with patients or create communities with breast cancer patients undergoing cancer treatment so that they strengthen each other and get support while undergoing the type of treatment chosen or undertaken to maintain high resilience.

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