

# Anxiety as Predictor of Negative Psychological Well-Being on Chemotherapy Patients of Breast Cancer

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## Abstract

Breast cancer is the second highest cause of death in women after cervical cancer. The most commonly used therapy for breast cancer is chemotherapy. Chemotherapy has side effects on physical and psychological that may affect the psychological well-being of patient. Anxiety is psychological side effect that is most felt by chemotherapy patients. This study aimed to understand correlation between anxiety and psychological well-being of chemotherapy patients of breast cancer.

This study used observational analytic method with cross sectional approach. Population in this research was chemotherapy patients of breast cancer in 2-6 session in Army Hospital Lv.II of dr.Soepraoen Malang. Total sample in this study was 62 people that taken by using stratified random sampling technique based on chemotherapy session of patients. Data collection was conducted by using questionnaires. Data were analyzed by using univariate and bivariate analysis.

The bivariate analysis result by using lambda correlation test shown that there was negative correlation between anxiety and psychological well-being with a value of  $p=0.050$  and  $r=-0.200$ . The conclusion of this study stated that the higher the anxiety, the higher probability of negative psychological well-being.

**Keywords:** anxiety, psychological well-being, chemotherapy, breast cancer.

## Introduction

Breast cancer cases in the world positioned in the second rank after cervical cancer and became one of the main causes of mortality for women in the world. This disease resulted in the increasing of burden that should be borne by patients and their family<sup>1</sup>. The prevalence of breast cancer is expected to increase from 14 million cases in 2012 to 20 million cases in the next two decades<sup>2</sup>. *North American Association of Central Cancer Registries* in 2017 stated that the occurrence of breast cancer in Asia was about 907 events per 100,000 people<sup>3</sup>.

Breast cancer treatment is carried out based on the stage. Treatment that carried out on stage I and II

is a combination of surgery and radiotherapy of breast surgery had percentage of 34%, the combination of breast surgery, radiotherapy and chemotherapy is 17%. Treatment of stage III is a combination of the most widely carried out treatment, that is mastectomy and chemotherapy (48%). While stage IV is the most preferred treatment is a combination of radiotherapy and chemotherapy, or one of them (48%). According to several treatment above, chemotherapy is the most effective therapy and the most widely used<sup>4</sup>.

Chemotherapy can affect the condition of patients in physically and psychologically. The physical impact that caused by chemotherapy is very various. There are 80% of chemotherapy patients who experience gastrointestinal disorders such as diarrhea, constipation, nausea, vomiting<sup>5</sup>, there are 50% of patients that get alopecia<sup>6</sup>, weight loss (86.4%), malnutrition (37.9%), weakness (15.7%)<sup>7</sup> and sensory neuropathy (35%)<sup>8</sup>, while the psychological impact that caused by chemotherapy

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such as anxiety and depression experienced by 41.4% of patients<sup>9</sup>, anxiety that felt by patient related to physical changes and costs used<sup>10</sup>, 90% of patients are afraid of disease recurrence, anger and guilty,<sup>11</sup> low self esteem experienced by 34.5% of patients, body image disturbance due to the occurrence of alopecia is felt as much as 61% of patients<sup>6,9</sup>. The therapy impact above will impact on the psychological well-being of the patient<sup>11</sup>.

Psychological well-being is the image of psychological health of individuals based on the fulfillment of positive psychological functioning criteria of individual<sup>12</sup>. Breast cancer patients who have positive psychological wellbeing will show self-acceptance, self-sufficient, able to interact with the environment, having a purpose in life, able to demonstrate personal growth and able to foster positive relationships with others. While negative psychological well-being impacts on the self-acceptance of individual against the physical changes, feel lost, changed roles, difficult to achieve life goals, and awareness of family suffering<sup>13</sup>. Additionally, individual with negative psychological well-being will feel burden others or family since their independence reduced. This makes a problem for breast cancer patients who have a negative psychological well-being, they get difficulty in undergoing chemotherapy<sup>14</sup>.

The visitation of chemotherapy therapy of breast cancer on chemotherapy unit in Army Hospital Lv.II of dr.Soepraoen Malang was 95 people in each month, and 20 of them are new patients. Preliminary study through interviews in 10 chemotherapy patients shown that 8 patients (80%) have negative psychological well-being, some of them said that during chemotherapy process, their activity is limited, the patients also said that patient no longer able to do things that are desirable because they feel has limitations and dependence on others. 5 patients (50%) said that they can not accept the current condition and have limitations in building interpersonal relationships. 9 patients (90%) said having desire to not continue chemotherapy because of the difficulties experienced during chemotherapy

Anxiety is a related factor to psychological well-being. Anxiety is fear with no apparent cause, feel isolated, feelings of uncertainty, helplessness and insecurity<sup>15</sup>. Anxiety in breast cancer patients are very noticeable in the initial diagnosis<sup>16</sup>. Breast cancer patients typically experience anxiety because of the disruption of functional status, health declining, and financial difficulties<sup>17</sup>. Cancer patients shown higher levels of anxiety, thus they are vulnerable to negative psychological well-being<sup>18</sup>. Based on the description above, the researcher wanted to analyze the correlation between anxiety and psychological well-being of chemotherapy patients of breast cancer in Army Hospital Lv.II of dr.Soepraoen Malang.

## Method

This study used observational analytic survey design with cross sectional approach. The population in this study was chemotherapy breast cancer patient in chemotherapy unit of Army Hospital Lv.II of dr.Soepraoen Malang. Total sample in this study was 62 people that taken through stratified random sampling technique based chemotherapy session that was 2-6 session. The sample selection was based on inclusion criteria, that was breast cancer patients on the stage of 2,3 and 4 who had one session of chemotherapy, aged 18-65 years old, willing to become respondents by signing the informed consent sheet, and also being able to read and write. Data collection conducted through questionnaire of *State-Trait Anxiety Inventory* (STAI) to measure anxiety and questionnaire of *Ryff's Psychological well-being scale* (PWB) to measure the psychological well-being of respondents. Data were analyzed by univariate and bivariate analysis (correlation lambda).

## Results

### The Result of Univariate Analysis

The results of bivariate analysis consisted of demographic data, anxiety and psychological well-being distribution of respondents based on chemotherapy session that were studied (2-4 session).

**Table 1. Demographic Data of Respondents**

No.	Characteristics of respondents	n	%
	Last education		
	Elementary School or equivalent	29	46.8
	Junior High School or equivalent	18	29.0
	Senior High School or equivalent	10	16.1
	College	5	8.1
	Total	62	100
	Marital status		
	Married	55	88.7
	Single	2	3.2
	Ever been married	5	8.1
	Total	62	100

**Table 2. Distribution of respondents based on age and illness duration.**

No.	Characteristics of respondents	N	Mean $\pm$ SD	Min-Max
1.	Age	62	48.90 $\pm$ 8.11	30-62
2.	Illness duration	62	12.29 $\pm$ 8.67	2-37

The table above described that the average respondent was 49 years old with illness duration for 12 months.

**Table 3. Distribution of respondents based on the level of anxiety**

Anxiety	Session II		Session III		Session IV		Session V		Session VI		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
High	9	52.9	6	46.2	3	25.0	3	27.3	4	44.4	25	40.3
Moderate	4	23.5	5	38.5	8	66.7	7	63.6	3	33.3	27	43.5
Low	4	23.5	2	15.4	1	8.3	1	9.1	2	22.2	10	16.1
Total	17	100	13	100	12	100	11	100	9	100	62	100

The table above shown the percentage of high anxiety that was more experienced by respondents who undergo chemotherapy in sessions 2.

**Table 4 Distribution of respondents based on psychological well-being level**

Psychological well-being	Session II		Session III		Session IV		Session V		Session VI		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Negative	6	35.3	8	61.5	7	58.3	7	63.6	4	44.4	32	51.6
Positive	11	64.7	5	38.5	5	41.7	4	36.4	5	55.6	30	48.4
Total	17	100	13	100	12	100	11	100	9	100	62	100

Table 4 shown that at least respondents percentage with negative psychological well-being experienced by respondents in sessions 2 and fluctuating in the next session.

### The results of bivariate analysis

**Table 5. The results of correlation analysis of anxiety and psychological well-being**

Positive		Psychological well-being		Total	r	p
		Negative				
Anxiety	High	9	16	25		
	Moderate	13	14	27		
	Low	8	2	10		
Total		30	32	62	-0.200	0,050

Table 5 shown that the value of  $p=0.050$ , if  $p < 0.05$  could be concluded that  $H_0$  was rejected, it meant there was correlation between anxiety with psychological well-being. The value of  $r=-0.200$  shown negative correlation with the weak strength, it meant that the higher the anxiety, the higher negative psychological well-being of patients.

### Discussion

Anxiety was defined as a response to a threat or potential that was definitely, thus the surveillance against the threat was increased. Anxiety consisted of two forms based on its character, that were temporary anxiety (state anxiety) and settled anxiety (trait anxiety)<sup>19</sup>. This study shown state anxiety, respondents experienced tension against chemotherapy procedure that would be undertaken. Anxiety may arise in pre therapy of breast cancer chemotherapy because of the procedures that would be passed to be considered as a painful thing<sup>20</sup>. Furthermore, this study shown the trait anxiety, respondents had concerns about the side effects after chemotherapy. Concerns raised due to physical burden after chemotherapy and change in patient's life that made patients feel anxious. Habituation or repeated therapy create anxiety in facing chemotherapy procedure would decrease, besides the development of therapeutic outcomes would reduce trait anxiety<sup>21</sup>.

Anxiety in chemotherapy patients caused the burden and high side effects of chemotherapy, stressors before initiation of chemotherapy was the trigger of anxiety<sup>22</sup>. High Anxiety was often accompanied by poor health status, self-perception and negative expectations for the future. This was what cause the individual feel unable to accept the changes that happened, reduced independence, got the difficulty in achieving the desire goals<sup>21</sup>.

There were several other factors that affected the anxiety, such as age and education level. The average age of respondents in this study was 49 years old (elderly early). The elderly was more prone to anxiety, because the elderly susceptible to decrease quality of life<sup>23</sup>. The mostly of respondents had education level in elementary school. The education level affected the anxiety, it was because education patterning one's perceptions and attitudes. Besides of that, low education level was difficult to manage rational mind<sup>24</sup>.

This study shown patients with high anxiety, in this case, strained before the procedure of chemotherapy begun and concerned over the side effects of chemotherapy tend to have negative psychological well-being. Patients feel worried and afraid of the side effects of chemotherapy such as nausea, vomiting, fatigue, etc.<sup>25</sup>. Anxiety and worries moderating the change in the destination domain of life and autonomy or independence of patient. Restlessness and worry as a form of anxiety is a threat that could change the person's behavior to achieve his goal which resulted in negative effect on positive relations with others<sup>26</sup>. Anxiety was the most influence factor on positive relationships with others that could affect the interaction with the environment, it also increased the psychological pressure<sup>27</sup>, positive relationships with others was a domain that most affected by anxiety<sup>28</sup>. Patients who experienced anxiety could affect the control domain environment. This happened because people do not have full control over the lives and environment. In addition, the individual was unable to make positive changes during sick<sup>29</sup>.

Anxiety would make people did not accept themselves, not independent, unable to maintain good relations with others and unable to cope the problem and the environment. Anxiety might reflect the difficulties of

individual's life, if people were able to pass through these difficulties, they would have positive psychological well-being. This was because of the efforts to maintain the objectives to be achieved, the mastery of the environment or personal development in facing difficulties<sup>30</sup>.

### Conclusion

High anxiety experienced by respondents in the initial session of chemotherapy and decreased in the next session. There was significant correlation between anxiety and psychological well-being. The higher the anxiety, the higher probability of negative psychological wellbeing.

**Conflict of Interest:** There was no conflict of interest in research.

**Sources of Funding:** This study used private funds researchers and did not get funding from any party.

**Ethical Clearance:** This research had been declared worthy of ethics by Health Research Ethics Commission of Faculty of Medicine, University of Brawijaya.

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