

THE RELATIONSHIP BETWEEN ANXIETY LEVELS AND SLEEP PATTERNS OF BREAST CANCER PATIENTS WHO UNDERGO CHEMOTHERAPY IN THE OPERATING ROOM TENRIAWARU BONE HOSPITAL

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Abstract

Breast cancer is the second leading cause of death among all types of cancer in women. Breast cancer is a disease that most often attacks women, affecting more than 1.5 million women every year. Chemotherapy treatment is one of the breast cancer treatments where patients undergoing chemotherapy will experience psychological problems, namely anxiety, which causes sleep pattern disturbances. the patient. The aim of this study was to determine the relationship between anxiety levels and sleep patterns in breast cancer patients undergoing chemotherapy. Research method with a cross sectional approach design. The sample consisted of 55 breast cancer respondents who underwent chemotherapy at Tenriawaru Hospital, Bone Regency using an accidental sampling technique. Data was processed using the chi square test. Univariate analysis showed that breast cancer respondents who underwent chemotherapy experienced moderate anxiety (60%) and (63.6%) had poor sleep patterns. Bivariate test results showed that there was a relationship between anxiety levels and sleep patterns (Pvalue = 0.004 ($p > 0.1$) and (OR = 5.365). It was concluded that there was a relationship between anxiety levels and sleep patterns in breast cancer patients undergoing chemotherapy. It is hoped that health workers will increase their ability to identify levels of anxiety and sleep pattern disorders, especially in breast cancer patients undergoing chemotherapy.

Keywords: Breast Cancer, Chemotherapy, Sleep Patterns, Anxiety Levels

INTRODUCTION

Breast cancer is a glandular cell in the breast, glandular ducts and breast supporting tissues that become malignant, glandular ducts and breast supporting tissues. Generally, breast cancer occurs in women who are over 40 years old, but it is not possible that even young women can get breast cancer. Breast cancer is the most feared disease by women although men can also get breast cancer (Putra, 2015).

Various causes of breast cancer from the results of research show that each type of cancer has various factors that cause and stage the occurrence of breast cancer,

which leads to the change of normal cells into cancer cells, According to research conducted by the WHO, (2014), breast cancer is a disease that most occurs in women, which affects more than 1.5 million women occur every year. Based on data obtained from the National Cancer Institute (NCI) estimates breast cancer cases that occurred in 2017 were around 252,710 cases or about 15% of all cancer cases, and the estimated death rate caused by breast cancer was 40,610 cases or about 6.8% of all cancer cases (Alter et al., 2018).

Breast cancer is a disease that causes death both in women and cancer number one in women. The prognosis depends on the stage at which breast cancer is found in women (Brunner & Suddarth, 2002).

The WHO has predicted cancer is the number one cause of death in the world by the end of the century. Cancer will be the biggest barrier for humans to increase [life expectancy](#). From the results obtained from 185 countries in the world by looking deeper at 36 types of cancer. Such as lung cancer, colorectal disease, stomach cancer, liver cancer, and breast cancer are the most common types of cancer. From the results of the report found lung cancer is the deadliest cancer with 1.8 million deaths or 18.4 percent of the total deaths and also breast cancer is the second cancer disease in the world that causes death in women and also does not rule out the possibility of men can also get breast cancer.

The impact of breast cancer treatment on psychological aspects that show that patients who experience breast cancer express the helplessness felt by these patients, anxiety, and disruption of sleep patterns of breast cancer patients (WHO, 2020).

One of the nursing considerations or health workers that need to be considered in patients with breast cancer who will undergo chemotherapy is anxiety in patients (Smeltzer et al., 2008)

Chemotherapy is a therapy given to anti-cancer and kill tumor cells by disrupting cell function and reproduction aimed at healing, control, and palliative (Neal, 2006). Chemotherapy can cause various physiological and psychological impacts, chemotherapy can also cause negative psychological impacts including disorders of self-esteem, sexuality, and patient well-being such as anxiety (Smeltzer et al., 2008). Based on research conducted by Oetaami, (2014), the impact of breast cancer and its treatment on psychological aspects shows that breast cancer patients express helplessness, anxiety, shame, low self-esteem and often irritable.

One of the considerations and considerations for nurses against patients undergoing chemotherapy is the anxiety that will be felt by patients who will cause disruptions to sleep quality. Smeltzer et al., (2008) Based on the results of Bintang research (2012) shows that more than 30% of cancer patients undergoing chemotherapy at Dr. Hasan Sadikin Bandung Hospital experience moderate anxiety and the rest experience severe anxiety to depression.

Patients with chemotherapy often experience anxiety and cause disruption of sleep patterns, usually anxiety that often occurs in breast cancer patients undergoing chemotherapy in the first, second and third stages, the management that can be done as a nurse is to provide education about emotional support, assess patient needs, fears and patient coping mechanism. Nurjanah, (2014) Anxiety that often occurs in patients who experience breast cancer is emotionally felt by breast cancer patients or feared by patients of imminent or *imagined* dangers accompanied by changes in the autonomic nervous system and subjective experiences as "pressure", "fear", and

"anxiety" (Spielberger, 1983). This anxiety can be divided into two parts, namely *state anxiety* and *trait anxiety*. *State anxiety* is anxiety with symptoms that arise or are felt by someone that are temporary and life-threatening. *Trait anxiety* is a symptom of anxiety that persists in a person which is a differentiator between one individual and another (Spielberger, 2010).

According to research conducted by Stuart & Laraia, (2009) anxiety is influenced by several factors that can affect breast cancer patients, anxiety is divided into two parts, namely predisposing factors and precipitation factors. Predisposing factors consist of psychoanalytic views, interpersonal views, behavioral views, family studies, and biological studies. Precipitation factors are perceived anxiety originating from internal and external sources which are grouped into two categories, namely threats to physical integrity and self-systems.

Anxiety is a reaction that arises in breast cancer patients often appears not only when the patient is diagnosed with cancer, but also when the patient will undergo chemotherapy, symptoms of anxiety such as, worries about recovery, and worries about not being able to perform functions as a woman optimally such as uselessness as a woman due to losing breasts or feeling imperfect as a woman (Muladi, 2020).

The negative impact can be felt by every breast cancer patient. Al-Hawari & Ward, (2006) stated that anxiety has an effect on breast cancer patients which can increase disturbances in sleep ability, increase nausea and vomiting after chemotherapy, anxiety also interferes with one's own quality of life. The anxiety that occurs in breast cancer patients when going to undergo chemotherapy, the impact of this anxiety can have a negative impact on the treatment and rehabilitation process medically and psychologically, as stated by in research that has been conducted found that anxiety that occurs can cause patients to stop chemotherapy.

From the results of Desmanianti & Avianti, (2014) obtained from data more than 30% of breast cancer patients who will undergo chemotherapy at Dr. Hasan Sadikin Bandung Hospital, breast cancer patients who do chemotherapy experience moderate anxiety and others experience severe anxiety to depression which causes patients to experience sleep pattern disturbances.

The gauge used for an individual's response range to anxiety fluctuates between adaptive and maladaptive responses. The most adaptive response range is the individual's anticipation to be prepared to adapt to the anxiety that may arise. Maladaptive is a symptom of panic where individuals are no longer able to respond to anxiety faced so that they experience physical, behavioral and cognitive disorders. A person responds adaptively to his anxiety, the level of anxiety he experiences is mild, the more maladaptive a person's response to anxiety, the more severe the level of anxiety he experiences, the phase of anxiety levels that can disrupt sleep patterns that occur in the phase of moderate anxiety levels.

Sleep quality is a phenomenon that is difficult to define and measure objectively and subjectively, where subjective measurement of sleep quality can be measured using The Pittsburgh Sleep Quality Index (PSQI) questionnaire (Buysse, Charles, Timothy, Susan, and David, 1989). PSQI can be used to distinguish between good sleep quality and sleep quality and poor sleep quality by using seven assessment components, namely: Time needed to start sleep (sleep latency), length of sleep time (sleep duration), presentation between sleep time spent in bed (sleep efficiency), sleep disturbances experienced at night (sleep disturbance), habitual use of drugs to help sleep, disturbances experienced during the day, subjective sleep *quality*.

Quality sleep is needed by breast cancer patients so that the condition and immune system can improve can be maintained optimally. damaged cells can be repaired at the time of sleep. Here the role of the nurse is very important in managing or meeting these needs and must know the quality of the patient's sleep and as a basis for planning nursing care for breast cancer patients. Sleep is a very important need that must be met adequately and well, which is 7-9 hours per day (PURWANTARI, 2013).

From the results of research conducted by Hafiroh, (2022), at Dr. Hasan Sadikin Hospital (RSHS) Bandung obtained from the results of research that has been obtained from 83 patients who will undergo chemotherapy, as many as 69 (83.13%) breast cancer patients have poor sleep quality. Some components of the assessment that can affect sleep quality, namely subjective sleep quality, namely moderately poor sleep quality (44.58%), with sleep latency > 60 minutes (53.01%), so-called sleep disorders (63.86%), or dysfunction that occurs during the day (53.01%).

According to research conducted by Alifiyanti et al., (2017), breast cancer patients who will undergo chemotherapy have several types of sleep disorders, such as insomnia (66.67%), disturbances in circadian rhythms (57.33%). Perceived sleep disturbances such as *Restless Legs*

Syndrome (44.0%), sleep apnea (34.67%), and narcolepsy (23.33%). This disorder can result in poor sleep quality and can also cause disruption of the healing process in cancer.

From the results of interviews obtained at Tenriawaru Hospital, Bone Regency, breast cancer patients who have been given education about breast cancer and about chemotherapy, but from the results of interviews with breast cancer patients as many as 4 people, it was found that patients experienced anxiety and sleep pattern disorders. As a result of this anxiety, patients who experience breast cancer have moderate levels of anxiety with symptoms such as frequent shortness of breath, pulse, increased blood pressure, dry mouth, anxiety, insomnia, and bad feelings.

Breast cancer patients also experience sleep pattern disorders such as frequent flygun as much as 4 times a night and also some who experience insomnia and cannot sleep as a result of the anxiety.

From the background described above, researchers are interested in examining the relationship between the level of speed and sleep patterns in breast cancer patients who will undergo chemotherapy at Tenriawaru Hospital, Bone Regency.

According to the World Health Organization (WHO) estimates that there are as many as 18.1 million new cancer cases and 9.6 million deaths that occur this year, the number of cancer patients that occur worldwide continues to increase significantly. From the results of the Report that has been released by

International Agency for Research on Cancer, In Indonesia where breast cancer cases are the highest prevalence of cancer. Based on data obtained from the Information Data Center in 2015, nationally the prevalence of breast cancer in the Indonesian population of all ages in 2013 was obtained as much as 0.5% or around 61,682 people. Data was obtained that West Sumatra Province occupies the third largest position after D.I Yogyakarta and East Kalimantan, which is as much as 0.9% or estimated at around 2,285 people (Kementerian Kesehatan RI., 2015),

Breast cancer is the second most common cause of death in women, with an estimated 46,000 dying in 1994. The results of the survey that have been carried out obtained preliminary data conducted by researchers in the Medical Record Room at

Tenriawaru Hospital, Bone Regency on September 16, 2023, found that breast cancer patients in 2021 amounted to 101 people and patients who died were 11 people with a percentage (11%). In 2022, 124 breast cancer patients were found who died as many as 22 people with a percentage (18%). in 2021-2022 The total number of patients suffering from breast cancer is 225 people with a percentage (29%) found that the average breast cancer occurs in women (Ministry of Health 2022).

According to the results of a survey conducted on September 27, data on patients suffering from breast cancer in 2023 were 153 people with hospitalization and 101 outpatient and 25 people died with the number of patients undergoing chemotherapy 40 people in one month.

RESEARCH METHODS

In this study, the design used was *descriptive analytic* to connect two variables using a *cross sectional* design by collecting data on independent variables and dependent variables at the same time (Notoatmodjo, 2010). The expected results can determine the relationship between anxiety levels and sleep patterns of breast cancer patients who undergo chemotherapy in the surgical room of Tenriawaru Hospital, Bone Regency.

This study was conducted in the surgical room of Tenriawaru Hospital, Bone Regency due to the high incidence of breast cancer in women and was carried out from October 16 to 28, 2023, in the surgical room of Tenriawaru Hospital, Bone Regency. The sampling technique used by the researchers was *accidental sampling* with a total sample of 55 breast cancer patients by determining samples using the Slovin formula.

The instrument used in this study was a questionnaire sheet. The questionnaire sheet is designed according to the variables to be studied, namely variables and variables of sleep pattern disorders that will carry out chemotherapy at Tenriawaru Hospital, Bone Regency. Measurements in this study use real measurements in the field using questionnaires, in accordance with understanding, and respondents' assessments using questionnaire sheets.

RESULTS AND DISCUSSION

Analisa Univariat

Univariate analysis of the patient's anxiety levels and sleep patterns. All types of data on these variables are categorical data so that the presentation of data uses a frequency distribution display Respondents involved in this study include women in the age range of 35-65 years, with distribution based on the following table :

Table 1 Frequency Distribution of Respondents' Characteristics Based on Age, Education, Occupation

Frekuensi	F	%
Age		
1. Early adulthood 18-40 th	1	1.8
2. Dewasa madya 41 - 60 th	50	90.9
3. Late adulthood > 60 th	4	7.3

Frekuensi	F	%
Education		
1. No School	0	0
2. Elementary School	11	20.0
3. First High School	16	29.1
4. Upper High School	17	30.9
5. University	11	20.0
Work		
1. Civil State Officer	4	7,3
2. Officer swasata	4	7,3
3. Enterpreneur	9	16,4
4. Pensioner	0	0
5. Laborer	0	0
6. Farmer	19	34,5
7. Housewives	9	16,4
8. Unemployment	10	18,2

Based on the table above, it was found that from 55 payudara cancer respondents who underwent chemotherapy with an age range of 35-65 years with a high school education level of 30.9%, and as many as 34.5 respondents with jobs as farmers.

Table 2 Frequency Distribution of Respondents Based on Anxiety in Breast Cancer Patients Who Undergo Chemotherapy in the Chemotherapy Room and Polysurgery of Tenriawaru Hospital, Bone Regency

Anxiety Level	f	%
Mild Anxiety	22	40,0 %
Midlle Anxiety	33	60,0%

Based on table 2 obtained from 55 respondents, most breast cancer respondents who did chemotherapy with moderate anxiety levels as much as 60.0%.

Table 3 Distribution of Respondents' Frequency Based on Sleep Patterns in Breast Cancer Patients Who Undergo Chemotherapy in the Chemotherapy Room and Polysurgery of Tenriawaru Hospital, Bone Regency

By Tidur they respond	f	%
Good	20	36,4
Bad	35	63,6

Based on table 3, obtained from 55 breast cancer respondents who did chemotherapy, most respondents as many as 63.6% stated poor sleep patterns.

Analisa Bivariat

Bivariate analysis is performed to determine the meaningful relationship between the two main variables, namely the independent variable with the dependent variable. The independent variable is the anxiety level of the dependent variable of

sleep patterns. All variables analyzed both independent and dependent variables are catagoric variables so that the statistical test used is a quadratic test (*chi-square*).

Table 4 The relationship between anxiety levels and sleep patterns of breast cancer patients undergoing chemotherapy at Tenriawaru Hospital, BoneRegency

Anxiety levels	Sleep quality		Total	P Value		OR
	Good	Bad				
	N	%	N	%	N	%
Kecemasan Ringan	13	59,1%	9	40,9 %	22	100%
Kecemasan Sedang	7	21,2%	26	78,8 %	33	100%
	20	36,4	35	63,6%	55	100%

In table 4, researchers can explain that respondents with moderate anxiety levels have poor sleep patterns as many as 78.8% of 55 respondents. Meanwhile, respondents with mild anxiety levels had good sleep patterns as much as 59.1% of the total respondents. The results of statistical tests obtained *p value* = 0.004 ($p < 0.1$) then it was concluded that there was a relationship between anxiety levels and sleep patterns of breast cancer patients who did chemotherapy. The results of the analysis obtained OR = 5,365, meaning that respondents who have moderate anxiety levels have a 5,365 times chance of experiencing sleep pattern disturbances.

Frequency distribution analysis

Anxiety levels in breast cancer respondents who did chemotherapy in chemotherapy rooms and polysurgery

Based on table 2 of respondents who experienced breast cancer who did chemotherapy, researchers found that from 55 respondents, most breast cancer respondents who did chemotherapy were found with moderate anxiety levels as much as 60.0%.

Anxiety felt by cancer patients is a blunt emotional overreaction or depression and sensitive context response (Clift 2011), from other opinions stating that anxiety that occurs is a manifestation of suppressed feelings, this condition requires appropriate resolution so that individuals feel safe, but from research states that not all problems can be resolved properly by individuals. This feeling of anxiety gives rise to restlessness and fear.

Al-Hawari & Ward, (2006) stated that breast cancer has an anxiety effect that can increase pain, anxiety can also interfere with sleep, and cause symptoms of nausea and vomiting after chemotherapy, as well as disruption of one's own quality of life. The results of Desiani, (2011) regarding the anxiety of patients undergoing chemotherapy with respondents as many as 54 people, found that most respondents experienced moderate anxiety. This moderate anxiety makes the individual focused on the thoughts that concern him, there is a narrowing of the field of perception, but still able to do things at the direction of others. Anxiety is a part of human life characterized by deep and sustained feelings of fear or worry (Nadeak, 2010) . Excessive anxiety in chemotherapy patients can affect patient motivation in carrying

out chemotherapy, thus affecting the chemotherapy program, According to the assumption of researchers breast cancer patients who do chemotherapy have different levels of anxiety with various factors causing the anxiety such as age and education factors, anxiety disorders can occur at all ages, more often in adulthood and more in women. This is in accordance with research that has been conducted on breast cancer patients who undergo chemotherapy at Tenriawaru Hospital, Bone Regency with the results obtained moderate anxiety levels and poor sleep pattern disorders with an age range of 35-60 years and a lot of education level, namely high school. Most anxiety occurs at the age of 41-60 years. This is because the older a person does not guarantee that his personality will be better and age also affects the patient's personal maturity. The onset of anxiety experienced by respondents when doing chemotherapy, where respondents said they were anxious about doing chemotherapy or would do chemotherapy such as anxiety from the effects of chemotherapy, the anxiety felt by respondents also had an impact on the recovery of patients because if patients always experience anxiety then the possibility of respondents can stop chemotherapy, symptoms felt by patients who experience anxiety such as anxiety, difficulty sleeping, difficulty concentrating, headache, frequent urination.

Sleep patterns in breast cancer respondents who did chemotherapy in chemotherapy rooms and polysurgery.

Based on table 2, researchers can explain that most respondents as many as 63.6% of 55 breast cancer respondents who did chemotherapy stated poor sleep patterns.

Sleep is a process of changing consciousness that occurs repeatedly during a certain period, every human needs sleep time approximately about a third of his life time or about 6-8 hours a day (Potter et al., 2021).

Sleep quality is a process by which a person has the ability to stay asleep and get the right amount of REM and NREM sleep (Berman et al., 2010). Sleep quality is a way for someone to easily start sleep and can maintain sleep well, the quality of a person's sleep can be described by the length of sleep, and complaints felt during sleep or after waking up. Some factors that affect the quantity and quality of sleep are, physiological factors, psychological factors, environment and lifestyle. Quality sleep is needed by breast cancer patients who are undergoing treatment in the hospital to regenerate and repair body cells. NREM sleep can stimulate growth hormone production.

(Growth Hormone) which can help in repairing body tissues. REM sleep is indispensable for maintaining brain tissue and is important for cognitive recovery (Tsao et al., 2008).if the functionology is disturbed then the quality of sleep is also disrupted, such as decreased appetite, weight loss, anxiety, irritability and failure in making decisions. Changes in natural and cellular immune function also result from moderate to severe sleep deprivation (*National Sleep Foundation; Potter and Perry, 2009*).

According to Karota-Bukit, (2003) are factors that affect the quality of a person's sleep such as environmental and psychological factors. Environmental

factors that can affect the quality of a person's sleep are the state of the environment in the hospital room ranging from noise, hot room temperature, uncomfortable beds and lights that are too bright. The results of this study are in line with research conducted by Sari et al., (2017) on the relationship between sleep quality and cognitive function in the elderly in BPLU senja sunny North Sulawesi Province using the PSQI (*Pittsburgh Sleep Quality Index*) questionnaire involving 38 respondents. The results of the study obtained 78.9% of elderly respondents had good sleep quality, 21.1% of elderly respondents had poor sleep quality and 68.4% of elderly cognitive function under normal circumstances. According to research by Pratiwi, T. Dwindia (2016), several types of sleep disorders that occur in breast cancer patients undergoing chemotherapy, namely insomnia (66.67%) and circadian rhythm disorders (57.33%). Sleep disorders felt in the form of *Restless Legs Syndrome* (44.0%), sleep apnea (34.67%), and narcolepsy (23.33%). Sleep disorders that occur can result in poor sleep quality

According to the researchers' assumptions, breast cancer patients who undergo chemotherapy have different sleep patterns, these sleep patterns can be influenced by various factors such as medical conditions (disease diagnosis) and environmental conditions. Diman these medical conditions in the form of the incidence of disorders vary for each medical condition, for example: Diman in patients when knowing the results of the examination and getting a surgical diagnosis, this will affect the patient's sleep patterns, a bad environment also greatly affects the patient's sleep patterns.

Good sleep quality is needed by the patient's body, the body that is sick will have difficulty starting and maintaining sleep, if the body experiences lack of sleep then the body will experience decreased body resistance, decreased daily activities, feel tired and can have an impact on psychological health and also have an impact on recovery from respondents' diseases, in research that has been done found breast cancer patients who do chemotherapy.

Analysis of the relationship between anxiety levels and sleep patterns of breast cancer patients undergoing chemotherapy

Based on the results of table 1 analysis, it can be explained that respondents with moderate anxiety levels have poor sleep patterns as many as 78.8% of 55 respondents. Meanwhile, respondents with mild anxiety levels had good sleep patterns as much as 59.1% of the total respondents. The results of statistical tests obtained $p \text{ value} = 0.004$ ($p < 0.1$) then it was concluded that there was a relationship between anxiety levels and sleep patterns of breast cancer patients who did chemotherapy. The results of the analysis obtained $OR = 5,365$, meaning that respondents who have anxiety levels have a 5,365 times chance to experience sleep pattern disturbances.

Anxiety is an emotional response to an unpleasant situation and experienced by all living things in everyday life cannot be observed directly and is an emotional state without a specific object and can provide motivation to achieve something in an effort to maintain life balance (Suliswati et al., 2005).

Anxiety felt by cancer patients is a blunt emotional overreaction or depression and sensitive context response Clift & Morrison, (2011), from other opinions stating that anxiety that occurs is a manifestation of suppressive feelings, this condition requires appropriate resolution so that individuals feel safe, but from research states that not all problems can be resolved properly by individuals. This feeling of anxiety gives rise to restlessness and fear.

Mohamed & Baqutayan, (2012) mentioned that the effect of anxiety on breast cancer patients can increase pain, interfere with sleep, increase nausea and vomiting after chemotherapy, as well as disrupt one's own quality of life.

The results showed that some of the respondents experienced moderate *state* anxiety with as many as (59.8%), and some respondents experienced moderate *trait* anxiety with as many as (54.6%).based on the causative factors of the speed in the form of: Self-system threat factors are factors that dominate anxiety in breast cancer patients undergoing chemotherapy. The threat of this dominating self-system can affect the role of the patient, so there needs to be an effort to reduce anxiety by paying attention to various factors that affect anxiety. Anxiety that occurs in breast cancer patients can also affect the patient's sleep patterns.

The results of Karota-Bukit, (2003) research on "sleep quality and sleep disturbance factors of elderly clients in the Internal Medicine Inpatient Room of the Hospital, Medan" where with respondents 100 people got the results of most of the sleep quality in poor condition (77%) in the hospital with some factors of sleep disturbances during hospital treatment are physiological factors, routine nurse, environmental, psychological and psychosocial actions. Where the psychosocial factor shows 24% of clients experience anxiety and 43% depression.

According to the researchers' assumptions breast cancer patients who do chemotherapy have moderate levels of anxiety and poor sleep pattern disturbances, this is because many breast cancer patients who do chemotherapy are worried about the effects of chemotherapy, anxiety that occurs in respondents is also influenced by age because increasing age does not guarantee the respondent's personality will be good, anxiety disorders can occur at all ages, more often in adulthood and more in women anxiety that occurs in respondents also results in sleep pattern disturbances in these respondents, sleep pattern disorders are also influenced by the environment and medical diagnostics, The occurrence of sleep pattern disorders associated with medical conditions is often found although the incidence of disorders varies for each medical condition, for example: in patients according to the results of the examination will get a surgical diagnosis, This will affect the patient's sleep pattern, the bad environment also greatly affects the patient's sleep pattern. As a hospital nurse, it is necessary to create a good and comfortable environment for patients so that there is no disruption of sleep patterns in these patients and the need for nurses to provide chemotherapy education and the effects of chemotherapy so that anxiety does not occur in patients.

CONCLUSION

Various causes of breast cancer from the results of research show that each type of cancer has various factors that cause and stage the occurrence of breast cancer, which leads to the change of normal cells into cancer cells, According to research conducted by the World Health Organization (WHO), breast cancer is a disease that most occurs in women, which affects more than 1.5 million women occur every year. Based on data obtained from the National Cancer Institute (NCI) estimates breast cancer cases that occurred in 2017 were around 252,710 cases or about 15% of all cancer cases, and the estimated death rate caused by breast cancer was 40,610 cases or about 6.8% of all cancer cases.

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