

ANALYSIS OF PSYCHOLOGICAL STATUS AND SLEEP QUALITY IN BREAST CANCER PATIENTS

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ABSTRACT

One of the health problems that many women experience is breast cancer. This diagnosis becomes a stressor that will greatly affect the patient's physical, psychological, spiritual and social condition. Another problem experienced by breast cancer patients is sleep disorders that can affect sleep quality. The purpose of this study was to determine the relationship between psychological status and sleep quality in breast cancer patients. The type or research design used is descriptive correlation with a cross sectional approach. The number of samples is 30 respondents, data collection using the standard DASS questionnaire for psychological status and PSQI for sleep quality, previously the patient was given informed consent. Data analysis using Spearman rank. The research was conducted at Waled Hospital, Cirebon. The results showed that there was a relationship between psychological status and sleep quality in breast cancer patients with p value = $0.004 < = 0.05$. The correlation coefficient value of 0.509 means that the strength of the correlation is moderate and positive, meaning that the better the psychological status of the respondent, the higher the correlation. good sleep quality too. The conclusion of this study is that psychological status is positively correlated with sleep quality, the better the psychological status, the better the sleep quality of breast cancer patients.

KEYWORDS

Sleep Quality, Psychological Status



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INTRODUCTION

The problem faced by the world today is about human health with the epidemiological transition (shifting of health problems from infectious diseases to non-communicable diseases, resulting in an excessive burden for all countries in the world. On the one hand, the state has not succeeded in controlling the problem of infectious diseases which shows trend towards an increase in cases (Afuiakani, Djohgo, & Bina, 2017).

One of the health problems experienced by many women is reproductive problems, including breast cancer. Breast cancer is a type of malignant tumor that attacks breast tissue. The characteristics of breast cancer that are often experienced include pain, there is a lump that is getting bigger, the skin around the breast becomes wrinkled like an orange peel, sometimes accompanied by fluid or blood from the nipple (Henry & Crawford, 2005). Women who are diagnosed with cancer are usually already at an advanced stage so that many treatments are not adequate or appropriate (Alifiyanti, Hermayanti, & Setyorini, 2017).

Cancer is a condition of cells that experience loss of control from their normal mechanisms, experiencing abnormal and massive growth. (Low and middle income countries), cancer is the cause of death, reaching 70%. Data sourced from Dharmais Cancer Hospital in 2018 showed that the most cancer cases were breast cancer (19.18%) and was the largest contributor to all types of cancer (Kemenkes RI, 2019). The World Health Organization (WHO) based on the results of the Global Cancer Observatory in 2018 stated that the highest incidence in Indonesia was breast cancer, which was 58.256% or 16.7% of the total 348,809 cancer cases (Organization, 2019).

The Ministry of Health (Kemenkes) stated that the prevalence of breast cancer in Indonesia reached 42.1 people per 100,000 population, with an average death rate from cancer of up to 17 people per 100,000 population. Based on the 2018 Basic Health Research (Riskesdas) data, the prevalence of cancer in Indonesia showed an increase from 1.4 per 1000 population in 2013 to 1.79 per 1000 population, the highest prevalence was in the DI Yogyakarta province, which was 4.86 per 1000 population, after that are West Sumatra 2.4779 per 1000 population and Gorontalo 2.44 per 1000 population (Ministry of Health RI, 2019). Based on the findings from the World Health Organization's International Agency for Research on Cancer (IARC) cancer is the cause of death, this has experienced a shift in trend, previously cardiovascular diseases such as stroke, heart disease were the cause of death, but this has decreased due to better treatment (Bailey Jr, McWilliam, Buysse, & Wesley, 1998).

Breast cancer is a very frightening diagnosis for all women. Because this diagnosis becomes a stressor that will greatly affect the patient's physical, psychological, spiritual and social conditions. One of the psychological reactions of the patient is fear, anxiety, stress, despair and even depression, and not infrequently in the middle of undergoing therapy the patient commits suicide. Research from (SUKMA, 2018) that most respondents with breast cancer experience mild to moderate depression. Similar to what (De Sousa, Sonavane, & Mehta, 2012) said, not a few cancer patients experience psychological impacts,

and each person is different depending on the stage and severity, type of treatment (Handayani & Udani, 2017). The psychological impacts that are often felt include helplessness, anxiety, shame, decreased self-esteem, stress, anger. 30% of patients experience adjustment problems, and depression (20%).

Another impact of breast cancer is physical changes, one of which is sleep disturbances, which can affect the patient's psychological condition. Sleep disturbance is a condition where the quality, quantity of sleep in a person is disturbed. Quality sleep is very much needed by cancer patients who are undergoing therapy at the hospital to regenerate and repair to optimize the body's cells (Potter & Perry, 2005). NREM sleep stimulates the production of growth hormone (Growth Hormone) which will help repair body tissues. REM sleep is needed to maintain brain tissue and is important for cognitive recovery (Assefa, Diaz-Abad, Wickwire, & Scharf, 2015).

Sleep disturbances in cancer patients can also occur due to the effects of chemotherapy, as revealed by (Fink, 2016) respondents who received chemotherapy >6 cycles had poor sleep quality. In several other studies, it was stated that chemotherapy also had the effect of worsening functional status, namely the inability to carry out its role including fulfilling the need for rest and sleep

Preliminary studies conducted on 8 breast cancer patients, 4 of whom said that there was a deep sadness that was very influential in being able to sleep well, easily awakened and occasionally there was a feeling of anger that made it difficult to go back to sleep. The other 2% said that if there was no pain, the patient could sleep even though it was still easy to wake up occasionally. And the other 2 just said sometimes it's hard to sleep. This condition is clarified in the results of research by (Alifiyanti et al., 2017) respondents (31) with cancer patients with mastectomy had poor sleep quality such as sleep latency, sleep duration, efficiency of sleep habits, and daytime dysfunction. (SETIYARINI & Effendy, 2018) in their research said that almost 26% of cancer patients experienced severe depression,

Patients who experience deep sadness, to stress and depression often occur related to their condition, both during hospitalization and during treatment at home. Psychological conditions that are not good can lead to biological conditions that are not good as well. To restore a good biological condition, good quality sleep is needed. Based on this, researchers are interested in conducting further research related to the relationship between psychological status and sleep quality in breast cancer patients in the Hematology and Oncology Room of the Waled Regional General Hospital, Cirebon Regency.

RESEARCH METHOD

The type of research used is descriptive correlation with a cross sectional approach. The population and sample were breast cancer patients who were hospitalized at Waled Hospital. The sampling technique used accidental sampling as many as 30 respondents. The instrument used to measure psychological status using the Depression anxiety and stress scale (DASS) questionnaire version 21 consisting of 3 sets of self-report scales to measure emotional state (depression,

anxiety and stress), this questionnaire was adopted from Lovibond & Lovibond . This questionnaire consists of 21 statements. The value of the validity test is 0.34 – 0.71 and the reliability test based on Cronbach's alpha is 0.93. Each statement is given a score of 0 to 3. 0 if it has never been experienced; 1 if sometimes experienced; 2 if experienced frequently; experienced very often. The measurement results on this variable use 4 categories, namely: Good = 1-5, Mild = 6-7, Medium = 8-14, Bad = 15-21, The instrument used to measure sleep quality is the Pittsburgh Sleep Quality Index (PSQI) questionnaire.) developed by Contreas et. Al (2014). The PSQI questionnaire was published by the University of Pittsburgh with a cronbach alpha value of 0.83. This questionnaire consists of open questions (no. 1 to 4), and closed questions (no. 5 – 8) with a score range of 0 – 3. 0 if in the last one month there has been none; 1 if experienced 1 time in 1 week; 2 if experienced 2 times in 1 week; and 3 if experiencing >3 times a week. Interpretation of sleep quality Sleep quality is good if the score is 5, sleep quality is poor if the score is >5 Analysis of the data used is by using the calculation of the Spearman Rank test. Before the research is carried out, the research ethics first goes to the Mahardika School of Health Ethics Commission (STIKes)

RESULTS AND DISCUSSION

Table 1 Frequency Distribution of Psychological Status in Breast Cancer Patients

Independent Variable	frequency	Percentage
Psychological Status :		
1. Normal	27	90.0
2. Light	3	10.0
TOTAL	30	100

Source: Primary Data (2022)

Based on the table above, it can be explained that of the 30 respondents the most respondents who had normal psychological status, namely 27 respondents (90.0%).

Table 2 Frequency Distribution of Quality in Breast Cancer Patients

Dependent Variable	frequency	Percentage
Sleep Quality		
1. good	21	70.0
2. Bad	9	30.0
TOTAL	30	100

Source: Primary Data (2022)

Based on table 2 above, it can be explained that of the 30 respondents, most of them have good sleep quality, namely as many as 21 respondents (70.0%)

Table 3 Relationship between Psychological Status and Quality in Breast Cancer Patients

Psychological Status	Sleep Quality				TOTAL	
	good		Bad		n	%
	%	n	%			
Normal	1	77.8	6	22.2	27	90.0
Ligh	0	0	3	100	3	10.0
TOTAL	21	70.0		30.0	30	100

Source: Primary Data (2022)

Based on table 5.3 above, it can be explained that most of the respondents who experienced normal psychological status had good sleep quality (77.8%), and all respondents who had mild psychological status disorders all had poor sleep quality (100%). Further statistical tests using the Spearman Rank tests are obtained as follows:

Table 4 Spearman Rank Test Results Relationship Psychological Status With Quality In Cancer Patients

	Correlation Coefficient	Direction Correlation	Category	-value
Relationship between Psychological Status and Quality in Breast Cancer Patients	0.509	Positive	Moderate	0.004

Source: Primary Data (2022)

The results of the statistical test of bivariate analysis that have been carried out using the Spearman rank test get p value = 0.004 < = 0.05, then H0 = rejected which means that there is a relationship between Psychological Status and Quality in Breast Cancer Patients at Waled Hospital, Cirebon Regency, on the coefficient value The correlation value is 0.509, meaning that the strength of the correlation is at moderate strength and positive means that the better (normal) the psychological status of the respondent, the better the quality of sleep (p value: 0.004, : 0.05, r: 0.509).

A. Psychological status in breast cancer patients

Psychological is a picture of a personality and abilities possessed by everyone in general and these abilities are related to the ability to be prepared for stress which is caused by several factors so that directly or indirectly affect a person in perceiving and behaving. This psychological status also applies to everyone without exception. The description of the psychological status of patients with chronic diseases plays a very important role in the treatment process and the healing phase.

The results of this study indicate that of the 30 respondents the most are respondents who have normal psychological status, namely 27 respondents (90.0%). Psychological status includes depression, anxiety and stress conditions experienced by breast cancer patients in particular and generally experienced by everyone in any condition. The results of this study are in line with the research of Afuikani, et.al (2018), at the beginning of being diagnosed with cancer, almost all of the participants experienced the stages of denial, anger and anger until eventually they could accept it, because these participants admitted that if they continued to be sad, it might cause them

to suffer more quickly. death for always denying reality, shutting himself in until finally not undergoing proper treatment.

The results of this study explain that a person's response in dealing with grieving or loss conditions is different, many factors influence it. Definitely stress can occur over events that are being experienced by the patient, anxiety is a feeling of fear experienced by the patient or someone about something that has not been experienced or has occurred, it can be said that anxiety is a reaction or body alarm in preparation for dealing with stress. Stress and anxiety have a characteristic that is very similar between the two, the difference is that stress occurs due to stressful conditions, while anxiety is due to a form of worrying about an event that has not previously occurred. As a consequence of psychological status such as anxiety, depression and stress disorders .

B. Sleep quality in breast cancer patients

The results showed that of the 30 respondents, most of them had good sleep quality, as many as 21 respondents (70.0 %). Sleep is a condition that is carried out repeatedly and there is a change in the status of consciousness within a certain time (Perry, Potter, & Ostendorf, 2013). Sleep activity is characterized by the absence or minimal activity, a process of physiological changes in the body occurs, and is accompanied by a decrease in response to external stimuli. Sleep occurs because of the release of serotonin in the raphe in the pons and midbrain, called the Bulbar Synchronizing region (BSR). When a person tries to sleep with his eyes closed, in a relaxed state the stimulus to the SAR will decrease, the BSR takes over the task until sleep finally occurs (Perry, Potter, & Ostendorf, 2013).

Sleep quality is one of the important symptoms of sleep disorders and other accompanying diseases, sleep quality is important as one of improving health and the recovery process (Perry, Potter, & Ostendorf, 2013). Another opinion explains that sleep quality is a multi-complex situation because it involves several dimensions, also includes qualitative and quantitative aspects such as length of sleep, time needed to fall asleep, frequency of awakening from sleep, depth and depth of sleep.

C. Relationship between psychological status and sleep quality in breast cancer patients

Cancer is a disease caused by faulty cell division until finally there is an abnormal growth of new cells, massive, difficult to control until they metastasize. Chronic disease conditions such as breast cancer experienced by patients will greatly affect their psychological status. Conditions of stress, depression for ordinary people mean a condition of sad, moody feelings or emotions, unhappiness, lack of enthusiasm to live life (Perry, Potter, & Ostendorf, 2013).

The psychological status of a person who is diagnosed with a chronic disease for the first time will have various experiences in responding to the diagnosis as bad news. And will respond like denial, anxiety, isolate yourself until you can finally accept it, as expressed in the theory of grieving by Kubler-Ross, which consists of 5 phases/stages when a person loses and is grieving, including denial, anger, bargaining, depression and acceptance . Sleep quality is one of the important symptoms of sleep disorders and other accompanying diseases, sleep quality is important as one of improving health and the recovery process (Perry et al., 2013). Another opinion explains that sleep quality is a multi-complex situation because it involves several dimensions, also includes qualitative and quantitative aspects such as length of sleep, time needed to fall asleep, frequency of awakening from sleep, depth and depth of sleep (Melastuti & Avianti, 2015).

Several factors that affect sleep quality include psychological status such as anxiety, stress, depression. Often the condition of a person who is anxious or stressed and depressed even experiences disturbances in his sleep. Psychological conditions that are not good have an effect on increasing levels of norepinephrine in the blood by stimulating the sympathetic nervous system (SSS). This increase in norepinephrine levels affects during sleep in stage IV NREM and also REM sleep until the resulting condition is that a person will be easier to wake up frequently. Psychological status (anxiety, depression, stress) in cancer patients in particular will stimulate the production of catecholamines (norepinephrine and dopamine), histamine, acetylcholine, glutamate which causes a person to be awake (Romito, Cormio, Giotta, Colucci, & Mattioli, 2012).

An important role that regulates sleep and wakefulness is the neurotransmitters histamine (affects wakefulness) and GABA which affects sleep. When a person experiences insomnia, a lot of histamine is produced in the body while not much GABA is produced, on the Contrary, during the day a lot of GABA is produced and not much histamine is produced as a result, the patient experiences excessive sleepiness (SETIYARINI & Effendy, 2018).

The results showed that most of the respondents who experienced normal psychological status had good sleep quality (77.8%), and all respondents who had mild psychological status disorders all had poor sleep quality (100%). The results of the statistical test of bivariate analysis that have been carried out using the Spearman rank test get p value = $0.004 < 0.05$, then H_0 = rejected which means that there is a relationship between Psychological Status and Quality in Breast Cancer Patients at Waled Hospital, Cirebon Regency, on the coefficient value The correlation value is 0.509, which means that the correlation strength is at moderate strength and positive means that the better (normal) the psychological status of the respondent, the better the quality of sleep (p value : 0.004, : 0.05, r : 0.509).

The results of this study explain that a person's response to accepting his condition is very varied. As the results of research conducted by Purwati (2014) on 40 breast cancer patients with Severe anxiety has poor sleep quality as much as 70%. Conditions of anxiety, stress, depression often interfere with sleep so that the quality of sleep becomes poor. While the quality of sleep is very important for a person's health status, especially in people with illness, because sleep functions as a maintenance of health, especially the heart during the NREM stage 4 process, the release of growth hormone to repair brain cells, muscles relax progressively, the body's energy storage as a result of a decrease in the rate of basal metabolic rate (Perry et al., 2013).

If the quality of sleep is poor, it will cause several impacts, namely physical effects such as excessive sleepiness, sad and tired facial expressions, fatigue, increased blood pressure, dizziness, stiff neck. And other impacts are psychological impacts such as apathy, decreased response, lazy to talk, reduced memory, confusion, hallucinations arise. In this study, the value of the correlation coefficient obtained a value of 0.509, meaning that the strength of the correlation was at moderate strength and positive, meaning that the better (normal) the psychological status of the respondent, the better the quality of sleep . On the other hand, if the psychological status is not in a good condition, the tendency for sleep quality is to be in a bad condition.

CONCLUSION

Psychological status is related to the quality of breast cancer patients, conditions of anxiety, stress, depression often interfere with sleep so that the quality of sleep becomes poor. While the quality of sleep is very important for a person's health status, especially in patients with disease, because sleep serves as a maintenance of health, especially the heart. Recovery in breast cancer patients (chemotherapy) really requires good physical health. Good psychological status will contribute to physical health status. Good physical health will have an impact on good sleep quality. The results of the analysis showed that there was a relationship between psychological status and sleep quality in breast cancer patients with $p \text{ value} = 0.004 < 0.05$. The correlation coefficient value of 0.509 means the strength of the correlation is moderate and positive, meaning that the better the psychological status of the respondent, the higher the correlation. good sleep quality too.

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