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Cognitive therapy : *Self help group* to stress levels in breast cancer patients in rsud Dr. moewardi surakarta

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ABSTRACT

Background

Breast cancer is the second highest incidence of cancer in the world and so far the most common cancer in women. Breast cancer causes physical and psychosocial problems. Breast cancer patients have emotional overload and can trigger stress conditions after diagnosis and treatment. Cognitive therapy is one form of psychotherapy that is right given to cancer clients who experience anxiety and depression.

Method

The type of research used is research *Quasy Experimentalwith a pretest-posttest control group design design*. This study compiled two groups, namely the intervention group and the control group. Technique *Probability sampling* with method *simple random sampling* is used to get 50 respondents divided into 2 groups.

Results

The results of thetest *Mann Withney* show values *p value* 0.025 so that there are differences in stress levels between the intervention group and the control group.

Conclusion

The results of the study after being given an intervention that cognitive therapy: *self help groups are* effective in reducing stress levels in breast cancer patients.

Keywords: Breast Cancer, Cognitive Therapy: *Self Help Group*, Stress Level.

INTRODUCTION

Breast cancer is the second highest incidence of cancer in the world and so far the most common cancer in women. Invasive breast cancer was diagnosed by about 246.660 women and 2.600 men. As many as 61.000 new cases of breast cancer in situ are diagnosed in women. Estimates of breast cancer in the United States for 2017 are 252.710 new cases of invasive breast cancer will be diagnosed in women and 63.410 new cases of carinoma in situ (CIS) will be diagnosed (CIS is non-invasive and is the earliest form of breast cancer). [1] In 2015, around 40.290 women died from breast cancer. [1] The prevalence of breast cancer in Indonesia in 2016 is estimated at 61.682 people or 0.5%. Indonesia, which has the highest

prevalence of breast cancer, is Central Java, which is 0.7% with an incidence of 11.511 people. [2]

Breast cancer begins when cells in the breast begin to grow out of control. Cells usually form tumors that are often seen on x-rays or felt as lumps. Malignant tumor cells (cancer) can grow to attack tissue or spread (metastasis) to areas that are far around it. Breast cancer occurs almost entirely in women, but men can get it too. Breast cancer can spread through the lymph system. The lymph system includes lymph nodes, lymph vessels and lymph fluid. The lymph nodes are peanut shaped and are the immune system linked by lymph (lymphatic). Lymph vessels such as small blood vessels carry a clear fluid called lymph (not blood) from the breast. Lymph contains tissue fluids and waste products, as well as immune system cells. Breast cancer cells can enter the lymph vessels and begin to grow in the lymph nodes. [1]

Breast cancer causes physical and psychosocial problems. Problems include fatigue, sleep disorders, pain, nausea and vomiting, early menopause, decreased immune function and impaired cognitive function. Psychosocial problems include anxiety, stress, depression, fear of other cancers, fear of being examined, recurrence of disease and death. [3]

Psychology of breast cancer patients is the most felt by respondents, namely helplessness in the form of emotional disturbances such as crying (68%) and experiencing anxiety in the form of worry thinking about the impact of treatment (84%). Respondents felt ashamed of breast cancer (72%), decreased self-esteem in the form of pessimism in life (64%), experienced stress from breast cancer (80%), experienced anger responses in the form of dislike when carrying out treatment (64%). [4]

One of the treatment efforts for breast cancer patients is chemotherapy. Chemotherapy affects the health of cells as well as cancer cells, which cause side effects that are commonly seen during treatment. Breast cancer patients are often reluctant to run chemotherapy because of the impact. [5] Breast cancer patients who undergo chemotherapy are prone to stress, therefore the problem of handling stress in cancer patients needs special attention. One goal of treating cancer patients is to reduce pain and stress management. Breast cancer patients will feel scared, worried and frustrated. After being diagnosed, before surgery, during and after surgery and when undergoing therapy, patients will feel lost and experience stress. [6]

Patients with breast cancer have emotional overload and can trigger stress conditions after diagnosis and treatment.[7] Factors that cause stress and anxiety to the individual are loss of independence so that they experience tendencies and need help from others, separated from their spouse and family and cost problems. This can affect the immune system and allow individual abilities to decrease. [8]

Stress is an attempt to adjust oneself to balance the body and or someone's soul is disturbed from the sources of stress that occur on him and try to restore it. If someone cannot handle it properly, physical disturbances, unhealthy behaviors, or mental disorders will appear. [9] This diagnosis can slow down an individual's ability to maintain productivity and the individual feels that he has little control and no control at all, so that individuals become more vulnerable to the dangers of stress and even depression. The impact of stress caused is divided into two namely positive impact, stress is considered as a challenge (positive) characterized by stress being a source of motivation and stress can spur individual creativity so that individuals make business and there are also some women who consider stress is a threatening thing (negative) and dangerous, so what should be done is not to eliminate all stress but limit the negative effects of stress. [10]

Cancer sufferers experience problems in various aspects of their lives, and usually sufferers try to do various kinds of self-defense by escaping from the source of stress isolating themselves, venting their anger at others. Management for reducing stress in breast cancer patients includes pharmacology, which is the administration of anti-anxiety drugs or anti-depressant drugs, but these drugs can cause patients to become psychologically and physically dependent. The use of anti-anxiety drugs, stress and anti-depressant drugs for a long time will cause severity until dependence. Stress management is non-pharmacological by providing health counseling, distraction, relaxation, and psychotherapy. [11]

Cognitive therapy is one form of psychotherapy that is appropriate for cancer clients who experience anxiety and depression. In accordance with the purpose of therapy, it is expected that the thoughts, feelings and behavior of clients who are

negative about the current disease condition can be replaced with positive things. One study obtained before cognitive therapy was obtained, the average value of respondents' self-esteem was 8.83 with a value between 2-19, which means that the respondent's self-esteem level was in a condition of low self-esteem. After doing cognitive therapy measures, the average value of respondents 'self-esteem was obtained to be 1.66 with a range of values between 0-9, which means that even though there were still respondents who experienced low self-esteem, there seemed to be an increase in respondents' self-esteem. The study showed that there was a difference in self-esteem between before and after cognitive therapy or from 100% of respondents experiencing low self-esteem before cognitive therapy and after cognitive therapy there was an increase in self-esteem to high self-esteem in 17 respondents (58.6%). [12] This shows that cognitive therapy is beneficial to clients. Other studies have shown that physical health problems that experience low self-esteem are very significant decreases in signs and symptoms of depression, daily affliction of sadness, negative thoughts, and significant improvement in moderate affection. [13]

Based on these conditions, cognitive therapy interventions to control pain and stress in breast cancer patients, a therapy used to manage stress and coping mechanisms. Some advantages and methods involving the cognitive therapy process are considered capable of providing different treatments for stress and pain which are often only handled with biochemicals or drugs alone.

Based on the existing problems researchers are interested in conducting research on the effects of cognitive therapy on stress levels and mechanically coping with breast cancer patients, a study of stress in cancer patients undergoing chemotherapy has shown that 10% of cancer patients experience moderate stress and 2.86% experience severe stress. Physically stress can cause imbalances in body chemistry such as adrenaline, epinephrine and norepineprin and because in the RSUD Dr. Moewardi Surakarta has never taken therapeutic measures to reduce stress levels and coping mechanisms in breast cancer patients.

Preliminary study conducted by researchers at the RSUD Dr. Moewardi Surakarta in December 2017 - January 2018 there are 89 breast cancer patients. The survey conducted at DR Moewardi General Hospital Surakarta revealed that most breast cancer patients who experienced moderate stress were 46%, mild stress 26% and 28% were not stressed. The results of the interview with one of the nurses at the DR. Moewardi has never done cognitive therapy to reduce stress levels and coping mechanisms in breast cancer and the absence of an SOP on cognitive therapy. Based on the description above the researchers were interested in knowing whether there was any effect of cognitive therapy on stress levels and coping mechanisms for breast cancer patients in the DR. Moewardi Surakarta.

METHODS

Type of this study used research *Quasy-Experimental* with the design of the *Pretest-Posttest Control Group Design*. The researchers compiled two groups, namely the intervention group and the control group. The measurement of stress levels was carried out twice namely before treatment (*pretest*) and after treatment (*posttest*).

The population in this study were all breast cancer patients in the DR Moewardi General Hospital Surakarta. Determination of the minimum number of samples using atechnique *sampling probability* with a method *sample random sampling* and based on inclusion and exclusion criteria as many as 50 respondents divided into 2 groups with 25 people each in each group. In this study researchers conducted data collection by observing, identifying, interviewing and filling out the questionnaire. The collected data was analyzed through the IBM SPSS program version 21.0, and continued with a different test, namely the non-parametric(*testWilcoxon* and *TestWithney Mann Test*). The processed data is used as the basis for discussing problem statements, which are then presented in table form so conclusions can be drawn.

RESULTS

Table 1 Frequency distribution of the intervention group and control group based on demographic characteristics (n = 50)

Characteristics of the	Intervention (n = 25)	Control (n = 25)
Age	48.4 ± 8.05	47.32 ± 6.75
Occupation		
a. Not Working	9 (36%)	9 (36%)
b. Farmers / traders / labor	7 (28%)	7 (28%)
c. PNS	3 (12%)	4 (16%)
d. Entrepreneurs	6 (24%)	5 (20%)
Education		
a. Elementary	8 (32%)	10 (40%)
b. School	8 (32%)	6 (24%)
c. Senior High School	7 (28%)	5 (20%)
d. PT	2 (8%)	4 (16%)
marital status		
a. Married	21 (84%)	19 (76%)
b. Unmarried	2 (8%)	2 (8%)
c. Widow	2 (8%)	4 (16%)
Long experiencesick		
a. 1 year	11 (44%)	13 (52%)
b. 2 years	8 (32%)	9 (36%)
c. 3 years	6 (24%)	3 (12%)

Based on table 1 it is known that the average age in each group with the mean intervention group was 48.4 (n = 25) and the mean of the control group was 47.32 (n = 25) from ages 45-65 years. Most of the respondents in both groups had the highest susceptibility to elementary school education statistically as many as 18 respondents (n = 50). In addition, the majority of respondents did not have a job as many as 18 respondents (n = 50) and most respondents had experienced breast cancer for 1 year with a total of 24 respondents (n = 50), 2 years as many as 17 respondents (n = 50) and 3 year as many as 9 respondents (n = 50). Most of the respondents were married as many as 40 respondents (n = 50).

Table 2 Frequency distribution of stress levels of intervention groups and control groups based on demographic characteristics (n = 50)

Stress Level	*Pre test*	*Post test*
a. Normal		
▪ Yes	1 (33.3%)	2 (50%)
▪ No	2 (66.6%)	2 (50%)
b. Light		
▪ Yes	3 (75%)	3 (75%)
▪ No	1 (25%)	1 (25%)
c. Medium		
▪ Yes	7 (50%)	13 (56.5%)
▪ No	7 (50%)	10 (43.5%)
d. Weight		
▪ Yes	12 (50%)	6 (40%)
▪ No	12 (50%)	9 (60%)
e. Very heavy		

▪ Yes	2 (40%)	1 (25%)
▪ No	3 (60%)	3 (75%)

Based on table 2 before / pretest stress levels most respondents had severe stress levels as many as 24 respondents, with the same number ie 12 (50%) respondents each in the group who received cognitive therapy and not. Where as for the stress level after / posttest, most respondents had moderate stress levels of 23 respondents, with 13 respondents (56.5%) receiving cognitive therapy and 10 (43.5%) respondents not receiving cognitive therapy.

Table 3 differences in stress levels before and after treatment in the intervention group and the control group

Variable	***MeanMean Rank***	***Sum of Ranks***	***Z***	***p***
Stress level	16.00	496.00	-4,935	0,000

Table 3 shows that the results of the analysis to determine the influence of stress levels before and after cognitive therapy is a *p value* significant 0.000 (<0.05) so that it can be concluded there are significant cognitive therapy to decrease the stress on the respondent or breast cancer patients.

Table 4 Differences in the mean difference in stress levels between the intervention group and the control group

Variable	Group	N	*Mean Rank*	*Sum of Ranks*	*P value*
Sters Level	Intervention	25	22.00	550.00	0.025
	Controls	25	29.00	725.00	

Table 4 shows that the results of the analysis to find out the difference in stress levels in the intervention and control groups of cognitive therapy was *p value* 0.025 which means <0.05 so it can be concluded that there were differences in stress levels between the intervention group and the control group.

DISCUSSION

Research has been carried out on stress in breast cancer patients. The stress level before / pretest of the majority of respondents had severe stress levels as many as 24 respondents, with the same number of 12 (50%) respondents. Each in the group that received cognitive therapy and not. The stress level after / posttest of the majority of respondents had moderate stress levels, namely 23 respondents, with 13 (56.5%) respondents receiving cognitive therapy and 10 (43.5%) respondents not receiving cognitive therapy.

In the case group most of the 12 (50%) patients produced at the level of severe stress after being given cognitive therapy patients experienced a decrease in stress levels as much as 6 (40%) people became moderate stress, so the number experienced moderate stress levels to 13 (56.5%) person. In the control group as many as 3 (60%) experienced severe pain for these patients not getting cognitive therapy, but given therapy according to the treatment program in the hospital for 3 days then measured again to get a result of 3 (60%) severe stress levels did not decrease sress. Most patients with severe stress levels are given cognitive therapy does not experience a decrease because at the level of severe stress should be given pharmacological therapy to reduce stress levels.

Most breast cancer patients experience stress according to the scale assessment DASS 42, which is feeling sad and depressed because the disease experienced, irritability is associated with the disease, find it difficult to rest, feel hopeless and sad, feel worthless, nervous, see no hope for the future, feeling afraid of cancer, and feeling weak because the disease conditions are getting worse.

The results of measurements using DASS 42 breast cancer patients in the intervention and control groups experienced a severe scale of stress before intervention with the highest score in the assessment no. 26 with the statement that the patient feels hopeless and sad, no. 22 with the statement that the patient feels difficult to rest and number 39. That feeling alive is meaningless resulting in a score of 26-33 with a scale of severe

stress. After the intervention has decreased with a moderate score of 19-25.

At an advanced stage, cancer can spread to other organs so that it can aggravate the disease. Therapy that is carried out becomes more complex. As a result of the severity of the disease causes psychosocial problems. To overcome this, adaptive coping management is needed. Coping management is a psychological factor that can reduce or resist stress. Patients must feel very difficult to accept themselves because of the disease and treatment of cancer causes stress continuously. Patients with advanced stages can experience psychological disorders and self-rejection so that they can worsen the condition of the patient. [14]

The results of this study are supported by other studies that show that stress management strategies play a role in maintaining the stability of the psychological condition of breast cancer patients. The balance of the patient's psychological state is very important in the treatment process.[11] Strategies for handling stress are high which causes a decrease in stress levels and patients experience positive emotions such as strong feelings of joy and desire, and the presence of negative emotions does not appear on a large scale. [15]

Initially the patient carries out reactions to the diagnosis of chronic disease. Patients face the reality that must be forced to face, bad conditions cannot be lost, and symptoms of the disease are getting worse, thus requiring new adjustments to the condition. Furthermore, patients make adjustments through an intermediary process in the form of cognitive assessment. The assessment is in the form of primary and secondary assessments. Stress management strategies are included in the secondary assessment. Stress management strategies can have direct effects in the form of physiological changes, positive or negative emotions, and quality results. If breast cancer patients have a high stress management strategy, the long-term effects that arise are the patient's health becomes better, a high spirit of life, high psychological well-being, and good social functions. Conversely, if breast cancer patients have a low stress management strategy, the long-term effects that arise are the deterioration of the patient's health condition, decreased enthusiasm for life, low psychological well-being, and low social function. [16]

If a breast cancer patient has a high stress management strategy, the patient will be able to cope with a stressful situation, so the stress level decreases and the emotions that often arise are positive emotions. However, if the patient has a low stress management strategy, the patient will often have negative emotions. If emotions that often arise are negative emotions, patients will not be able to survive and find it difficult to establish positive relationships with others. Furthermore, patients experience prolonged stress to decrease psychological well-being. [17]

In the study 10% of cancer patients experienced moderate stress and 2.86% experienced severe stress. Physically stress can cause imbalances in body chemicals such as adrenaline, epinephrine and nor epinephrine. This condition occurs due to a disruption of the body's energy system balance and increased sympathetic nervous system activity.[18] Patients who experience stress need nursing intervention so that patients can live their lives comfortably. During this time nursing intervention in Indonesia in dealing with stress was used more in the form of psychotherapy, relaxation techniques or distractions. But along with the times and the increasing need for health services, cognitive therapy has been developed to deal with stress. [19]

Breast cancer patients who experience stress can be intervened. The purpose of cognitive therapy is to help clients identify, analyze, and oppose the accuracy of the client's negative cognition. In addition, it is also to strengthen perceptions that are more accurate and encourage behaviors designed to deal with symptoms of depression. The techniques of cognitive therapy, among others, support clients to identify cognitions or areas of thinking and beliefs that cause worry, using socratical questioning techniques that are asking clients to describe, explain and affirm negative thoughts that are self-degrading. Thus, the client begins to see that these assumptions are illogical and irrational, identifying a more realistic interpretation of oneself, self-worth and the world. Thus, the client forms new values and beliefs, and emotional distress disappears. [52, 53]

The results of the analysis to determine the effect of stress levels before and after cognitive therapy are *p value* 0.000, which means <0.05 so that it can be concluded that there is an effect of cognitive therapy on stress reduction in respondents or breast cancer patients.

The results of the analysis to determine the differences in stress levels in the intervention and control groups of cognitive therapy were *p value* 0.025 which means <0.05 so it can be concluded that there were differences in stress levels between the intervention group and the control group indicating that there were differences between treatment groups after being given cognitive therapy and groups controls not given cognitive therapy. Giving therapy in the form of cognitive therapy teaches the patient to see the positive value of the condition that is currently suffered and provides an opportunity to feel happy with his current condition. Patients with breast cancer in the process of adaptation will experience many changes in their lives such as the process of loss, decreased health conditions related to the stage of the disease, treatment and therapy performed, and changes in role due to illness. This can be felt as a stressor that will affect the meaningfulness of life. According to the results of the study showed that cognitive techniques *self help groups* can reduce stress levels and improve coping mechanisms. [20, 21]

The Purpose of cognitive therapy is to monitor negative automatic thoughts that occur, know the relationship between thoughts, feelings and behavior, change the wrong reasoning into logical reasoning, help identify and change false beliefs as a client's internal negative experience and change the client's negative automatic thoughts positive thoughts. With the change of negative thoughts to be positive, the trigger factors for stress will also decrease. [19, 22]

In the control group after the measurement of the respondent's pre intervention no action was taken until measurements were taken at the post-interaction stage. The researcher gave action to the control group after measuring post intervention. Individuals who experience stress will use various coping mechanisms to try to overcome them. The inability to deal with stress constructively is the main cause of pathological behavior. Therefore, because no action is taken, the stress level of the respondents in the category control group remains and increases. [23]

Stress is related to the incidence of depression and will lead to dysregulation of the *Adrenal Hypothalamic Pituary* (Axis HPA) which causes changes in serotinin metabolism and negatively affects cognitive control in the frontal lobe of the brain. and cause damage to the hippocampus and decrease dopaminergic function which causes a decrease in cognitive abilities, difficulty in concentration, decision making, easy confusion, disturbances in memory, feelings of guilt or regret, and lack of self-esteem. Respondents also answered feeling sad, felt unable to enjoy everything as usual, cried more than usual, and were more easily irritated or angry. One common feature of depression is a change in mood conditions in the form of feeling down, sad or cheap, crying, and increased irritability (irritability). [24]

If breast cancer patients have a high stress management strategy, the long-term effects that arise are the patient's health becomes better, a high spirit of life, high psychological well-being, and good social functions. Conversely, if breast cancer patients have a low stress management strategy, the long-term effects that arise are the deterioration of the patient's health condition, decreased enthusiasm for life, low psychological well-being, and low social function.

CONCLUSION

Based on the research objectives obtained from the results of data analysis and discussion presented in the previous chapter, the researchers conclude as follows:

1. Univariate analysis of stress levels and coping mechanisms in breast cancer patients, namely the characteristics of respondents based on age, marital status, education, employment and time ill.
2. Result of bivariate analysis that there is influence stress levels before and after cognitive therapy *p value* 0.000 (<0.05) and there are significant results of the analysis before and after the coping mechanisms of cognitive therapy is the *p value* 0.005 (<0.05).
3. The results of the analysis to determine differences in the coping mechanisms in the intervention group and control of cognitive therapy *p value* to 0.000 (<0.05) there are differences in stress levels between the intervention and control groups *p value* 0.025 (<0.05) there are differences in the level of coping mechanism between the intervention and control groups.

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