



THE INFLUENCE OF FIVE RELAXATION TECHNIQUES ON PAIN IN BREAST CANCER PATIENTS

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ABSTRACT

Pain is a symptom that is often complained of by breast cancer patients. Overcoming these symptoms can be done using five-finger relaxation techniques. In previous studies, this technique was only used to reduce anxiety and fatigue. This study aims to determine the effect of five-finger relaxation techniques on pain in breast cancer patients.

The five-finger relaxation technique is a process that uses the power of the mind by moving the body to heal itself and maintain health or relax through communication in the body involving all the senses including touch, smell, sight and hearing. Pain is an unpleasant sensory and emotional experience related to actual or potential tissue damage or explained in terms of the damage ”.

The research method is a quasi experiment with pre-Test and post-Test control group design. The population is breast cancer patients who use health services in hospitals. Sekarwangi and R. Syamsudin, SH. Sampling with consecutive sampling. The number of control and intervention groups was 30 each. The intervention group received hospital standard therapy and five-finger relaxation techniques for 15 sessions with 10-15 minutes for one month at intervals of one day, while the control group received hospital standard therapy. Measuring instruments used are PSQI, FACIT and BPI. Analysis using Paired Sample t-Test and Independent Test.

The results showed there were differences in pre-test and post-test pain scores in the control and intervention groups because of the p value <0.05 . There are differences in pain scores between the control group with the intervention where the intervention group has a better score than the control group.

The conclusion of this study is that there is an influence of five-finger relaxation techniques on pain in breast cancer patients. Based on these results the five-finger relaxation technique can be an additional intervention to reduce symptoms experienced by breast cancer patients.

Keywords: Breast Cancer, Pain, Five-Finger Relaxation

INTRODUCTION

Cancer is one of the leading causes of morbidity and mortality worldwide. Globally, almost 1 in 6 deaths are caused by cancer and around 70% of those deaths occur in low and middle income countries (WHO, 2017). Furthermore, WHO states that one of the most common causes of cancer deaths is breast cancer with 571,000 deaths in 2015.

Breast cancer is the most commonly diagnosed cancer and the leading cause of cancer-related deaths in women throughout the world. Based on a total of 23% of cancer cases there were 14% of deaths due to breast cancer. In addition, around 1.15 million patients are diagnosed with invasive breast cancer each year, and around 40 million women die each year from breast cancer (Juvet, Thune, Elvsaas, Fors, & Lundgren, 2017).

Based on data from the Basic Health Research in 2013, the prevalence of breast cancer in Indonesia reached 0.5 per 1000 women. More than 80% of breast cancer cases in Indonesia are found to be at an advanced stage, where treatment efforts are difficult. While West Java is the third largest province for breast cancer incidence, which is 6,701 people with a prevalence of 0.3% (Kemenkes RI, 2016).

Management of breast cancer is done with a series of treatments. The most frequently performed cancer treatments are surgery / surgery, chemotherapy, radiation therapy, hormone therapy, immune therapy, and or a combination of these therapies. Although it improves the condition of cancer patients, the therapy causes side effects as well as a series of physical and psychological symptoms (Mustian, Cole, Lin, & Asare, 2016).

Some of the most frequently reported symptoms due to cancer and its treatment are pain (Mustian, Cole, Lin, & Asare, 2016). Pain is a common problem in cancer sufferers especially in the first few years after treatment. In the long term about 5% to 10% of patients suffer from chronic pain and management of this pain can be a long-term clinical problem (Glare, Davies, Finlay, Gulati, & Lemanne, 2014). Cancer sufferers tend to suffer more pain due to cancer treatment, such as radiation or pain related to surgery. Cancer-related pain contributes to depression, insomnia, and decreased quality of life for many cancer patients (Pachman, Barton, & Swetz, 2012).

There are two ways of handling to overcome these symptoms, namely by means of pharmacology and non-pharmacology. Pharmacological therapy is proven effective in overcoming pain (Glare, Davies, Finlay, Gulati, & Lemanne, 2014; (Ghaddafi, 2011; (Lukman & Harjanto, 2007). However, pharmacological therapy in the long term risks causing side effects (Mustian, Sprod, Janelins, & Peppone, 2012) Non-pharmacological management is also widely developed and proven to be effective in dealing with pain symptoms. Nonpharmacological therapy includes Cognitive Behavior Therapy (CBT) and Exercise CBT is an effective nonpharmacological therapy to overcome psychological problems such as pain (Kwekkeboom, Cherwin, Lee, & Wanta, 2010; Bower, Julienne E, 2008; (Mendoza, Capafons, Gralow, Syrjala, & Rodriguez, 2016).

CBT is a short-term therapy (12 to 20 sessions) that emphasizes the importance of patients' thinking in determining how they feel and what they do. This therapy focuses on the relationship between thoughts, behavior, and feelings of a person and the role they play in specific symptoms, daily functions, and quality of life. By focusing on these three components change can be made in how a person thinks, acts and feels his difficulties. The basic principle of CBT is how a person thinks to have a powerful effect on his emotions and behavior (Mustaffa, Abu, & Yusuf, 2012).

One form of CBT that can be used for handling symptoms due to breast cancer such as pain is a relaxation technique. Relaxation technique is a technique to create a relaxed condition in the autonomic nervous system, which results in the normalization of blood supply in the muscles and decreases oxygen consumption, heart rate, breathing and muscle activity (Nugroho, 2016). Relaxation technique is a self-control technique,

which is useful for regulating the emotional and physical individual from anxiety, tension, stress, and others (Sari & Subandi, 2015).

Autogenic training is a relaxation procedure by imagining pleasant sensations in body parts such as the head, chest, arms, back, toes or hands, wrists. The sensations imagined are like a feeling of warmth, weakness or relax in certain parts of the body, as well as relief from deep, slow breathing. Relaxation techniques included in autogenic training are five-finger relaxation techniques and visualization or Guide Imagery (Davis & McKay, 2008). The five-finger relaxation technique has advantages over visualization, which is the fastest, easiest method of producing relaxation. In addition, this technique only envisions the four happiest conditions in his life, namely remembering when healthy, when with loved ones, getting the most beautiful praise and the most beautiful place ever visited.

The five-finger relaxation technique is a process that uses the power of the mind by moving the body to heal itself and maintain health or relax through communication in the body involving all the senses including touch, smell, vision and hearing (Davis & McKay, 2008).

Five-finger relaxation techniques have been adapted in Indonesia and have been applied in several studies, but have not been applied as an alternative treatment for breast cancer patients in hospitals. The City and Regency of Sukabumi have two regional government hospitals namely Sekarwangi Hospital and R. Syamsudin Hospital, SH. At Sekarwangi Hospital and R Syamsudin Hospital, SH for the management of symptoms due to breast cancer such as pain, the focus is still on pharmacological treatment and not yet using non-pharmacological treatment. During this time the treatment received by patients only in the form of drugs there is no specific management for symptoms of pain. This illustrates that non-pharmacological hospitals are not yet a supportive treatment for breast cancer patients. Whereas based on the evidence, non-pharmacological therapy in the form of a five-finger relaxation technique can deal with the symptoms of pain due to breast cancer.

The use of relaxation techniques in both hospitals can be one of the supporting treatments for breast cancer patients. Because the use of non-pharmacological therapy is very easy and does not require a large fee. This is very helpful for patients in both hospitals in undergoing treatment because most breast cancer patients are in poor economic

status. The application of the five-finger relaxation technique is expected to be an easy and affordable choice of supportive care for breast cancer patients which has been proven to reduce symptoms due to breast cancer.

METHOD

The research design used was a quasi experiment with Pretest-Posttest Control Group Design where observations were made 2 times, namely before the treatment (Pre-Test) and after the treatment was carried out (Post-Test). The control group is a group that gets standard therapy given by the hospital to breast cancer patients which includes general improvement in the form of blood transfusions, symptomatic treatment and treatment of breast cancer wounds. The intervention group received standard therapy given by the hospital to breast cancer patients and additional therapy in the form of five-finger relaxation techniques.

The selection of respondents is done where the respondents are divided into two groups (control and intervention) by randomizing the odd sequence into a control group and the respondents who are even numbered into the intervention group.

The control group received standard therapy carried out by the hospital which included improvement of general conditions in the form of blood transfusions, symptomatic treatment and treatment of breast cancer wounds. The intervention group received standard therapy plus a five-finger relaxation technique for one month (Short-Term Intervention), where the implementation process was done one day apart and carried out by researchers and enumerators. So that each respondent in this group for one month received a five-finger relaxation technique for 15 sessions. During the one month intervention process, additional data collected in the form of patient activities such as sports or other activities are collected in the form of daily logs or daily records.

The variable examined in this study was pain in breast cancer patients. While the intervention is a five-finger relaxation technique. The study was conducted at Sekarwangi Hospital in Sukabumi Regency and R. Syamsudin Hospital, SH in Sukabumi City. The joints used at the Sekarwangi Hospital in Sukabumi Regency are in the Nyi Ageng Serang Inpatient Room, 1st Floor and the Surgery Clinic. Whereas at R. Syamsudin Hospital, SH in Sukabumi City, the rooms used are in the Lower Lotus, Upper Lotus, Family Surgery, Aster and Poly Surgical Inpatient Rooms. The time of data

collection and experiment in this study was conducted on December 23, 2017 to March 02, 2018

The population in this study were all breast cancer patients who used health services at Sekarwangi Hospital in Sukabumi Regency and R. Syamsudin Hospital, SH in Sukabumi City. Based on data obtained from September to November 2017, the number of patients with breast cancer in RS R. Syamsudin, SH in Sukabumi City that uses health services in inpatient and poly surgical rooms is 79 patients or a mean of 26 patients per month. Whereas in Sekarwangi Hospital, Sukabumi Regency is 35 patients or a mean of 12 patients per month.

The inclusion criteria for the sample in this study were patients who had maximum stage III breast cancer, could be invited to communicate verbally, experience pain with pain complaint limits with a pain scale <7 , patients received analgesic therapy and a degree of independence $>60\%$. As measured by the Karnofsky Performance Scale. The sample size in the study was determined based on Fraenkel & Wallen (1993) ie 30 / groups so that the total sample of research taken was 60 respondents.

The measuring instrument used in this study was a questionnaire to measure pain in breast cancer patients using the Brief Pain Inventory (BPI). The BPI instrument has been translated into Indonesian and validity and reliability tests have been conducted in several studies. The reliability test of the BPI instrument has a Cronbach's Alpha value of 0.95 and all BPI instruments are declared reliable (Munawaroh, 2017). The Brief Pain Inventory (BPI) consists of 16 pain-related questions that ask about aspects of the pain experience that the patient feels over a 24-hour period, such as where the pain is located and its intensity, the impact of the pain on the patient's quality of life, and the effectiveness of the pain management provided. BPI takes 5 to 15 minutes to manage it, which includes 4 pain scales (current, mean, worst and finally), as well as 7 scales in assessing the impact of pain on general activities, mood, ability to walk, work, establish relationships with others, sleep and enjoyment of life. Each section is rated on a 1-10 numerical scale.

Descriptive analysis includes the characteristics of respondents and research variables. A description of the characteristics of the respondents is presented in the form of a frequency distribution table where interpretation is done with the percentage of each category. Descriptive analysis of research variables, namely pain before and after the five fingers relaxation technique is

described through the minimum value, maximum value, mean, frequency, percentage and standard deviation.

Hypothesis testing in this study uses the dependent and independent t test. Both of these tests are parametric statistical tests which have the requirement that the data distribution must be normally distributed. To test data normality using the Shapiro Wilk Test.

RESULT

A description of the characteristics of the respondents in the control group and the intervention group and the results of the homogeneity variance test is presented in Table 1. The characteristics of respondents in the intervention and control group were generally aged > 40 (70% and 80%), married (73.33% and 80%), BMI in the range of 18.50 - 24.99 (76.67% and 66.67%), unemployed (86.67%), basic education (53.33% and 60%), length of suffering ≤ 1 year (80.00% and 73.33%) and stage 1 (56.67% and 46.67%). Based on the homogeneity test results using the Chi-Square Test, for all aspects of the characteristics of respondents obtained p value > 0.05, meaning that the characteristics of respondents in the control and intervention groups are identical.

The results of normality test data on the pre-post data of the intervention group and the control group are presented in table 2. All the assessment scores before and after the intervention in the control group and the intervention group have p > 0.05, so that all pre-test and post-test scores in each normally distributed groups.

The results of the description of the mean pain scores as measured by the BPI instrument in the control group and the intervention group (table 3). In the control group the smallest and largest BPI scores in the pre-test were 6.18 and 6.91 while in the post-test were 5.45 and 6.09. Mean and SD pain scores decreased from a score of 6.66 (\pm 0.182) to 5.77 (\pm 0.195). For the intervention group, the smallest and largest BPI scores in the pre-test were 6.45 and 7.00 while those in the post-test were 4.55 and 5.91. The mean and SD scores decreased from 6.77 (1,138) to 5.38 (0.353). Both groups experienced a decrease in BPI scores which indicated decreased pain. But in general it is still in the category of moderate pain.

The mean pre-test and post-test mean differences were performed with pain scores using the paired sample t-test while the mean difference test of the control group and intervention used the

independent t-sample test (table 4). There were differences in the pre-test and post-test scores in the control group from a score of 6.66 to 5.77 (p-value = 0.000). For the intervention group there were also differences in the pre-test and post-test scores from 6.77 to 5.38 (p-value = 0.000). Both groups experienced improvements even though when seen from the difference scores the improvement in the intervention group was significantly higher than the control group (p-value = 0.016).

DISCUSSION

Cancer-related pain is a complex symptom that changes temporarily which is the end result of a mixed mechanism of pain. It involves inflammation, neuropathy, ischemic, and compression mechanisms in many places. This is a subjective and heterogeneous experience modified by individual genetics, past history, moods, hopes, and culture (Parala-Metz & Davis, 2013).

Pain in breast cancer can be caused by treatment and metastasis of cancer cells. Van Den Beuken et al. (2007) reported that about 33% of the prevalence of pain in cancer caused by treatment and 64% by metastasis from cancer cells. Cancer treatments that cause pain include chemotherapy, hormone therapy, surgery, and radiation therapy. Pain is a common and debilitating symptom in breast cancer patients. Sources of pain include postoperative pain, breast pain and pain associated with chemotherapy and radiation. A study showed that 52% of women with breast cancer experienced pain after breast surgery (Fiorentino, Rissling, & Israel, 2011).

Complaints of pain usually experienced by cancer sufferers. This condition can be caused by cancer itself, cancer treatment or both. Pain in cancer includes acute pain and chronic pain. Acute pain is described as an uncomfortable sensory, perception and emotional experience that lasts very quickly and ends in a short time. Chronic pain is persistent and ongoing recurring pain that lasts for six months or more. In chronic pain it is suspected that nerve endings that normally do not transmit pain are able to provide pain sensations, or nerve ends that normally only transmit very painful stimuli to be able to transmit previously painless stimuli as very painful stimuli. Complaints of pain that is felt continuously can cause patients to be less active, no appetite, sleep disturbance, and cause patients to be depressed and depressed (Nugroho, 2016).

In this study, the control group and the intervention group decreased pain. Pain reduction in the intervention group was higher than in the control group. All respondents in both the control and intervention groups received analgesic therapy. Based on the respondent's daily logbook, the respondent in the control group performed religious activities, namely prayer, dhikr, reading the Qur'an and following the recitation. Based on research (Budiyanto, Ma'rifah, & Susanti, 2015), dhikr is very beneficial for decreasing the intensity of pain in post mammary patients in addition to pharmacological therapy. Someone who experiences pain will seek help to meet their comfort needs, with Dhikr can meet the comfort needs of patients. Dhikr as a cure for pain including dhikr produces several medical and psychological effects in the body, where this phenomenon will cause the heart and mind to feel calm compared to before dhikr. Based on research (Rilla, Ropi, & Sriati, 2014). Reading the Quran is proven to activate body cells by converting sound vibrations into waves that are captured by the body, reducing stimulation of pain receptors so that the brain secretes endogenous natural opioids. This opioid is permanent to block the pain nociceptors.

In the intervention group decreased pain levels were higher than the control group because in addition to getting analgesic therapy also get five-finger relaxation techniques. Five-finger relaxation techniques affect pain intensity positively, this is indicated by a decrease in pain intensity in breast cancer patients after performing five-finger relaxation techniques. The intervention of the five-finger relaxation technique in this study is one that supports the success of reducing pain in breast cancer patients. The nonpharmacological approach that is usually done by nurses in an effort to overcome pain is first through the psychological modulation approach of pain such as relaxation, hypnotherapy, imagination, biological feedback, psychopropylaxis and distraction. Second, through sensory modulation of pain such as massage, therapeutic, acupuncture, acupressure, transcutaneous electrical nerve stimulations (TENS), music, zet hydrotherapy, homeopathy and ambulation (Basset Healthcare, 2008).

Five-finger relaxation techniques are very useful in reducing the intensity of pain because with the help of imagination the patient will form a shadow that will be received as a stimulus by various senses so that a beautiful shadow will be formed and the feeling will be calm so as to make

the patient unfocused to feel pain. Muscle tension and discomfort will be removed and cause the body to be relaxed and comfortable (Smeltzer & Bare, 2010)

The five-finger relaxation technique which is an individual activity creates pleasant shadows, and concentrates itself on these shadows and gradually frees itself from attention to pain. Besides the pleasant stimulus from the outside can also stimulate endorphin secretion, so that the pain stimulus felt by the patient is reduced (Tamsuri, 2007). Five-finger relaxation techniques are very useful in reducing the intensity of pain because with the help of imagination the patient will form a shadow that will be received as a stimulus by various senses so that a beautiful shadow will be formed and a feeling of calm will make the patient unfocused to feel pain (Widyanti & Wardani, 2013) .. Muscle tension and discomfort will be removed and cause the body to be relaxed and comfortable (Black & Hawks, 2014).

The individual characteristic factors that also influence the success of the intervention based on the characteristics of respondents, from the data it was found that the majority of respondents in the intervention group (70.00%) and in the control group (80.00%) were in the age group > 40 years. According to Wilkinson & Treas (2011), the risk of cancer increases with increasing age, where many cancer diagnoses occur in middle adulthood and the elderly. Age is very influential on pain (Smeltzer & Bare, 2010). As we age, changes in cellular and neurochemical substrate of nociception affect the perception of pain (Gibson & Farrel, 2004). A meta-analysis study conducted by Lautenbacher (2012) showed a tendency for increased pain and decreased tolerance limits with age. Adults sometimes report pain if it is pathological and impaired function (Singh, Gabriel, & Lewallen, 2008). In a longitudinal study conducted (Green & Johnson, 2010) examining the effect of age on pain shows that young patients experience pain more frequently than older patients. Research on breast cancer patients also shows that breast cancer patients under the age of 40 more often experience pain (Gartner, Jensen, Nielsen, Ewertz, & Kroman, 2009)

Another success factor is that most of the study respondents were married. Although pain is a personal experience, it can affect and be influenced by people around it (Somchock, 2012). According to (Montoya, Larbig, Braun, Preissl, & Birbaumer, 2004), couples are the most important source of support and are very meaningful for patients when

facing the problem of their illness, the support provided can help overcome pain more additively. At the time of suffering from breast cancer and accompanied by the absence of a spouse can increase the source of stressors for patients.

Full support from the family is a very important factor for breast cancer patients. Support and communication in the family can significantly improve the quality of life of breast cancer patients. Family support is considered to have a direct effect on well-being and emotional adjustment for cancer patients (Witdiawati, Rahayuwati, & Sari, 2017).

Complementary therapy in the form of a five-finger relaxation technique can be an option for pain management in breast cancer patients, where this therapy is used as an adjunct, not a substitute for drug therapy (pharmacology). One of the benefits of this therapy can reduce the risk of side effects from the use of analgesics thus helping in reducing patient costs and increasing patient satisfaction with nursing services.

CONSLUSION

Based on the results of the study and discussion, the conclusion in this study is the five-finger relaxation technique has a positive influence on the decrease in sleep quality, fatigue and pain in breast cancer patients, this is indicated by the post-test scores of sleep quality, fatigue and pain significantly lower from pre-test scores in the control and intervention groups. This is supported by an improvement in the intervention group significantly higher than the control group.

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