International Journal of Nursing and Health Services (IJNHS)
http://ijnhs.net/index.php/ijnhs/home
Volume 4, Issue 1, February 20th, 2020, pp 52-58
e-ISSN: 2654-6310

Emotive Behavior Therapy and Flexibility Activities on Pain Level among Breast Cancer Patients

I Gede Sunardianta[1*], Rr. Sri Endang Pujiastuti[2], Dina Indrati Dyah Sulistyowati[3]

[1] Nursing Student, Postgraduate Program, Master Applied of Health
[2-3] Politeknik Kesehatan Kemenkes Semarang, Semarang, Indonesia

Article info

***Article history*:**
Received; July 07th, 2020
Revised: November 24th, 2020
Accepted: Desember 24th, 2020

Correspondence author:
I Gede Sunardianta
E-mail: sunardianta96@gmail.com

DOI:
http://doi.org.10.35654/ijnhs.v4i1.388

Abstract

Breast cancer is one of the most common non-cutaneous malignancies in women. Breast cancer is caused by various problems such as fatigue, pain, fear, depression, and even decreased life quality. Pain is one of the most aggravating symptoms that are arising from cancer. Emotive behavior therapy and flexibility activities were alternative treatments with complementary therapies for reducing breast cancer patients' pain levels. This study aimed to examine emotive behavior therapy and flexibility activities on lowering breast cancer patients' pain levels. This study was a quasi-experimental, pre-test, and post-test with the non-equivalent control group. Forty-two breast cancer patients were selected using the purposive sampling method and divided into the intervention group (n=18) and the control group (n=24). The intervention group received emotive behavior therapy and flexibility activities. The control group received standards care. The results found a significant difference between the experimental and control groups (p-value<0.05). In conclusion, emotive behavior therapy and flexibility activities were recommended and effective in reducing breast cancer's pain level.
.

Keywords*:* emotive behavior therapy, flexibility activities, pain level, breast cancer

INTRODUCTION

Cancer is currently one of the leading health problems (1). In 2016, an estimated 71% of all deaths were due to non-communicable diseases (2). Cancer is a non-communicable disease that is the second leading cause of death after cardiovascular disease globally (3). Commonly, breast

cancer incidence as women with 25.2% of the total incidence (4).

Indonesian health profile data in 2018, the results of early detection of breast cancer in Indonesia, found 16,956 breast tumors and 2,253 suspected breast cancer(5). Results of basic health research 2018, the prevalence of cancer-based on a doctor's diagnosis in Indonesia was 1.79%, while the prevalence of cancer in Central Sulawesi province was 2.23% (6).

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells (7). Breast cancer is one of the most common non-cutaneous malignancies in women. At an early stage, patients with breast cancer will find an apparent lump in the breast area and often feel discomfort in the area. In contrast, at an advanced stage, the symptoms include a lump in the breast, a sore in the breast that is difficult to heal even after treatment, discharge, or blood from the nipple milk (8). Breast cancer is a severe condition and can cause physical problems (9). Common physical issues are sleep disturbances, fatigue, and pain (10).

Pain is an aggravating symptom of cancer and has many etiologies arising from tumors, diagnostic procedures, and cancer treatments (11). More than a third of patients report cancer-related pain as bothersome or even an intolerable cancer aspect (12). The patient's inability to deal with pain causes the patient to have difficulty carrying out daily activities such as eating, dressing, bathing, and moving. Pain in cancer patients is often found in patients who seek treatment in about 30% and nearly 70% of patients with advanced cancer (13). The patient's average pain range was 4-9 or moderate to severe (14).

Management for patients with cancer has been widely developed. The management of breast cancer includes radiotherapy, hormone therapy, immunotherapy, surgery, and chemotherapy (15). Management of breast cancer patients who are often given is chemotherapy (16). Chemotherapy is a process of giving cytostatics to inhibit and kill cancer cells in the body that are actively dividing.(17,18) Chemotherapy has side effects on treatment for people living with breast cancer. The side effects of chemotherapy that often occur are nausea and vomiting, hair loss, fatigue, loss of appetite, and pain (16).

Pain management in cancer patients can be given by two techniques, namely pharmacological and non-pharmacological. According to the World Health Organization (WHO), guidelines for pharmacological management are based on the pain level in cancer patients. Mild pain with non-opioids example, acetaminophen, moderate pain with opioids such as codeine, and severe pain with potent opioids such as morphine and fentanyl (19). Pharmacological techniques are still widely used by patients with cancer to treat mild to severe pain. Non-pharmacological techniques used to reduce pain in cancer patients include EBT (Emotive Behavior Therapy), SEFT (Spiritual Emotional Freedom technique), relaxation, massage, breathing techniques, music, flexibility exercises, hot or cold therapy, hypnobirthing, and TENS (Transcutaneous Electrical Nerve Stimulation) (20).

Nurses have a duty and responsibility in providing nursing care to determine and deliver interventions or management to deal with various problems that arise, which can interfere with cancer patients' quality of life (21). One of the non-pharmacological techniques that can be done is flexibility activities. Flexibility activities can potentially relieve cancer-related symptoms and help patients return to the health status before treatment (22). The researchers were interested in examining the flexibility activities of breast cancer patients
' pain levels.

Sturgeon's research showed that massage affected pain with $p = 0.04$, and the analysis effect size on pain was 0.2 (23). The results of Miaskowski using the pro-self for six weeks, the patient's pain decreased significantly with $p = 0.001$ (24).

Managing problems in breast cancer patients related to pain still focuses on the management of pharmacological therapy. Issues with breast cancer do require not only medical treatment but also require psychosocial support. The psychosocial needs of breast cancer patients in the hospital

have not been maximized. Based on this, the researchers were interested in researching Emotive Behavior Therapy and Flexibility Activities on breast cancer patients' level of pain.

OBJECTIVE

This study aimed to examine emotive behavior therapy and flexibility activities on reducing breast cancer patients' pain levels.

METHOD

The quasi-experimental study, pre-test, and post-test with the non-equivalent control group were applied in this study. We divided into the interventions group who receive the Emotive Behavior Therapy and Flexibility Activitiestherapy and the control group who received the medical therapy according to hospital standards for breast cancer patients. Emotive behavior therapy and flexibility activities therapy conducted for six days duration with 60 minutes for once treatment.

The pain level was measured by using the instrument Numeric Rating Scale (NRS). *The Numeric Rating Scale* consists of a number range from 0-10. *The numeric rating scale* can be used to assess the pain intensity of the last 24 hours. The results of the assessment can be categorized into three categories. A scale of 0 means no pain, a scale of 1-3 is mild pain, 4-6 is moderate pain, 7-10 is severe pain.

The samples were selected from Madani Regional Public Hospital in Palu City. It was selected using non-probability sampling techniques with purposive sampling method and based on inclusion and exclusion criteria. Forty-two samples were included and divided into 18 for the intervention group and 24 samples in the control group.

In this study, the researchers obtained data directly by observing, identifying, interviewing, and filling out observation sheets. The data were analyzed through the IBM SPSS program version 24.0 and continued with different tests such as Paired t-test and Independent t-test to describe the mean difference before and after receiving the intervention among the intervention group and the control group.

RESULT

Table 1 The characteristic of respondents based on age, education, and occupation

Characteristics	Intervention (n=18)		Control (n=24)		P
	N	%	N	%	
Education					0.910*
Primary school	9	50	11	45.8	
Junior High	4	22.2	2	8.3	
High school	2	11.1	10	41.7	
College	3	16.7	1	4.2	
Occupation					
Does not work	7	38.9	10	41.7	0.867*
Farmers / laborers	5	27.8	7	29.2	
Civil servants	3	16.7	3	12.5	
Entrepreneur	3	16.7	4	16.7	
Total	18	100	24	100	
Age	***Mean ± SD***		***Mean ± SD***		0.317*
	44.33±5.96		43.63±7.08		

Table 1 described respondents' characteristics based on age, education, and occupation

among the intervention and control groups. The results found that 45.8% of respondents in the control group graduated from primary school and half of the respondents from the intervention group graduated from primary school. Regarding the occupation, they do not work (41.7%), only 12.5% of respondents were civil servants. The mean age showed that among the intervention group was 44.33±5.96 and the control group was 43.63±7.08.

Table 2 The mean differences in pain level before and after treatment among the intervention group and control group

Variable	Intervention Group		Control Group		P-value
	Mean	SD	Mean	SD	
Pre-test of pain	5.22	0.808	5.75	1.032	0.001*
Post-test of pain	3.11	1.323	3.92	0.654	

**Paired t-test*

Table 2 showed that the mean differences in pain level before and after treatment among the intervention group and control group. The results found that there is a significant difference in reducing the pain level before and after receiving the treatment among the intervention group and the control group (p-value <0.05).

Table 3 The mean differences in pain levels between the intervention group and control group

Variable	Intervention Group	Control Group	P-value
	Mean±SD	Mean±SD	
Pain pre	5.22±0.808	5.75±1.032	0.080*
Pain post	3.11±1.323	3.92±0.654	0.026*
Mean Difference	2.50±0.707	1.88±1.116	0.044**

**Paired t-test*

***Independent t-test*

Table 3 showed significant difference in pain levels before and after treatment among the intervention group and the control group. The mean difference between the group with a p-value was 0.044 (<0.05). In conclusion, the intervention group was more effective lowered pain levels than the control group.

DISCUSSION

Data analysis results in the intervention group obtained a p-value of 0.001, which indicates that emotive behavior therapy is against. The flexibility activities affect reducing pain levels in breast cancer patients with a mean pain level before the intervention of 6.50. After giving emotive behavior therapy for 1x40 minutes for four days and giving flexibility activities for 1x20 minutes for four days, the mean pain level became 3.11 or decreased by 3.39.

The pain experienced by the respondent influences his life and how much pain he feels. Negative thoughts about pain will focus individual attention on unpleasant aspects and make the pain felt worse. Giving treatment motive behavior therapy improves the way clients think by directing clients to understand the problems they face. The client is assured that he can behave naturally.

Mahigir's research results revealed the session emotive behavior therapy was very effective in reducing pain in the experimental group. This study corroborates previous studies that stated considering the use of psychological interventions in the treatment of pain in cancer patients.

Emotive behavior therapy effectively reduced pain in the experimental group and could be used in cancer patients. In this regard, it is recommended that groups of patients should be prepared for counseling and intervention with individual or group therapy. Several studies have assessed or reported Emotive Behavior Therapy's effectiveness on pain among cancer patients (25).

Research results of Rr. SE. Pujiastuti about exercise on pain levels showed that exercise significantly affected pain levels with a value of $p = 0.001$. The exercise body can release endorphins as a natural pain reliever and create comfort (26).

The analysis showed that the average patient experienced moderate pain. Pain in cancer patients is chronic pain or pain that is felt for more than three months. Pain in cancer patients can be caused by several things, including cancer conditions, post-surgical wounds, or the side effects of chemotherapy drugs.

Wahyuningsih's research showed that most cancer patients experienced moderate pain (43.2%). Moderate pain is pain that is felt continuously and interferes with activities (27). Pain in cancer patients arises from cancer or the effects of chemotherapy treatment (28).

Provision of exercise flexibility activities is believed to improve biopsychosocial mechanisms and increase coping to reduce symptoms such as pain due to surgery. There is the fact that regular physical exercise has been shown to inhibit and reduce complaints from breast cancer and its treatment. Some studies suggest that exercises started on the first day after surgery are excellent for restoring the arms and shoulders' function and reducing the side effects of cancer and its treatment. Physical exercise is indispensable for most activities, perfect for strengthening muscles, improving blood circulation, stimulating an increase in endorphin levels, and helping the body function in general 29).

Exercise flexibility activities have positive benefits on the body to relieve pain (30). It can be explained that the factors that are known to modulate pain include exercise or physical exercise. If you do physical activity, you release endorphins. The theory of hormonal changes suggests the role of endorphins, which are substances or neurotransmitters that resemble morphine that the body produces naturally.

These neurotransmitters are assigned to nerve receptors specifically designed to receive them. The presence of endorphins at the synapse of nerve cells results in decreased pain sensation. In addition, physical exercise can also improve blood circulation and relax the muscles. It can inhibit lactic acid increase due to muscle spasms and tissue ischemia that can cause pain (31).

Physical exercise can increase the level of endorphins four to five times in the blood. So, the more you do the exercise, the higher your endorphin levels. When individuals do physical activity for more than 20 minutes, the endorphins will come out and be captured by the receptors in the hypothalamus and limbic system that function to regulate emotions. Increased endorphins are closely related to decreased pain, improved memory, improved appetite, sexual performance, blood pressure, and respiration. In addition, endorphins can boost morale and feelings of energy (32).

CONCLUSION

Based on data processing and analysis regarding emotive behavior therapy and flexibility activities as an alternative to complementary therapy. It can be concluded that the mean reduction in pain level in the intervention group is more than the mean pain level in the control group with a p-value of 0.044 (<0.05). In conclusion, emotive behavior therapy and flexibility activities are very effective in reducing pain levels.

REFERENCES

(1) Siegel RL, Miller KD, and Jemal A. Cancer statistics, 2016. CA: a cancer journal for clinicians. 2016; 66: 7-30.
(2) WHO. World Health Statistics 2018: Monitoring Health For The SDGs, Sustainable Development Goals. World Health Organization, 2018.
(3) Porth C. Essentials of pathophysiology: concepts of altered health states. Lippincott Williams & Wilkins, 2011.
(4) Stewart B and Wild CP. World cancer report 2014. Public Health. 2019.
(5) Kementrian Kesehatan Republik Indonesia. Profil Kesehatan Indonesia 2018. Jakarta: Kementrian Kesehatan RI, 2019.
(6) Kementrian Kesehatan Republik Indonesia. Laporan Nasional Riskesdas 2018. Jakarta: Badan Penelitian dan Pengembangan Kesehatan. 2018.
(7) Street W. Cancer Facts & Figures 2019. American Cancer Society: Atlanta, GA, USA. 2019.
(8) Helps TC. Stop Kanker. Jakarta: PT. Agro Media Pustaka, 2010.
(9) Liao M-N, Chen S-C, Lin Y-C, Chen M-F, Wang C-H, and Jane S-W. Education and psychological support meet the supportive care needs of Taiwanese women three months after surgery for newly diagnosed breast cancer: A non-randomized quasi-experimental study. International journal of nursing studies. 2014; 51: 390-9.
(10) Wei D, Liu X-Y, Chen Y-Y, Zhou X, and Hu H-P. Effectiveness of Physical, Psychological, Social, and Spiritual Intervention in Breast Cancer Survivors: An Integrative Review. Asia-Pacific journal of oncology nursing. 2016; 3: 226-32.
(11) Alcorn SR, Balboni MJ, Prigerson HG, et al. "If God wanted me yesterday, I wouldn't be here today": religious and spiritual themes in patients' experiences of advanced cancer. Journal of palliative medicine. 2010; 13: 581-8.
(12) Javier FO, Irawan C, Mansor MB, Sriraj W, Tan KH, and Thinh DHQ. Cancer pain management insights and reality in Southeast Asia: expert perspectives from six countries. Journal of global oncology. 2016; 2: 235-43.
(13) Breivik H, Cherny N, Collett B, et al. Cancer-related pain: a pan-European survey of prevalence, treatment, and patient attitudes. Annals of oncology. 2009; 20: 1420-33.
(14) Ovayolu Ö, Ovayolu N, Aytaç S, Serçe S and Sevinc A. Pain in cancer patients: pain assessment by patients and family caregivers and problems experienced by caregivers. Supportive Care in Cancer. 2015; 23: 1857-64.
(15) Sandina D. 9 Penyakit Mematikan Mengenali & Tanda Pengobatannya. Yogyakarta: Smart Pustaka, 2011.
(16) Sari M, Dewi YI and Utami A. Hubungan dukungan keluarga terhadap motivasi pasien kanker payudara dalam menjalani Kemoterapi di Ruang Cendrawasih I RSUD Arifin Achmad Provinsi Riau. Jurnal Ners Indonesia. 2012; 2: 158-66.
(17) Brunner LS. Brunner & Suddarth's textbook of medical-surgical nursing. Lippincott Williams & Wilkins, 2010.
(18) Rasjidi. Buku Ajar Onkologi Klinik. Jakarta: EGC, 2013.
(19) Ripamonti C, Santini D, Maranzano E, Berti M, Roila F, and Group EGW. Management of cancer pain: ESMO clinical practice guidelines. Annals of oncology. 2012; 23: vii139-vii54.
(20) Astutik P and Kurlinawati E. Pengaruh Relaksasi Genggam Jari Terhadap Penurunan Nyeri Pada Pasien Post Sectio Caesarea. STRADA Jurnal Ilmiah Kesehatan. 2017; 6: 30-7.
(21) Larasati AD, Anggorowati A and Johan A. Manfaat Progressive Muscle Relaxation (PMR) sebagai intervensi keperawatan dalam meningkatkan Quality of Life (QOL) wanita kanker

payudara yang menjalani kemoterapi. Indonesian Journal of Nursing Research (IJNR). 2019; 2.
(22) Fong DY, Ho JW, Hui BP, et al. Physical activity for cancer survivors: a meta-analysis of randomized controlled trials. BMJ. 2012; 344: e70.
(23) Sturgeon M, Wetta-Hall R, Hart T, Good M and Dakhil S. Effects of therapeutic massage on the quality of life among patients with breast cancer during treatment. The journal of alternative and complementary medicine. 2009; 15: 373-80.
(24) Miaskowski C, Dodd M, West C, et al. Randomized clinical trial of the effectiveness of a self-care intervention to improve cancer pain management. Journal of Clinical Oncology. 2004; 22: 1713-20.
(25) Foroogh M, Khanehkeshi A and Karimi A. Psychological treatment for pain among cancer patients by rational-emotive behavior therapy-efficacy in India and Iran. Asian Pac J Cancer Prev. 2014; 13: 4561-5.
(26) Ulya FH, Suwandono A, Ariyanti I, Suwondo A, Kumorowulan S, and Pujiastuti SE. Comparison of Effects of Massage Therapy Alone and in Combination With Green Coconut Water Therapy on B-Endorphin Level in Teenage Girls With Dysmenorrhea. Belitung Nursing Journal. 2017; 3: 412-9
(27) Wahyuningsih IS. Nyeri Pada Pasien Kanker Yang Menjalani Kemoterapi. Unissula Nursing Conference Call for Paper & National Conference. 2018, p. 133-7.
(28) Raphael J, Ahmedzai S, Barrie J, Bennett M, and Fallon M. The British Pain Society's Cancer pain management: a perspective from the British Pain Society, supported by the Association for Palliative Medicine and the Royal College of General Practitioners. London: The British Pain Society. 2010.
(29) Indrawati. Pengaruh Latihan Fisik Terhadap Nyeri Pada Pasien Kanker Payudara Pasca Mastektomi Di RSUD dr. Achmad Mochtar Bukittinggi. 2012.
(30) Sulistini R, Yetti K and Hariyati RTS. Faktor faktor yang mempengaruhi Fatigue Pada Pasien yang menjalani Hemodialisis. Jurnal Keperawatan Indonesia. 2014; 15: 75-82.
(31) Mirawati D, Leni ASM and Wahyuni W. Efektivitas Ice Compress Dan Massage Terhadap Penurunan Nyeri Akibat Delayed Onset Muscle Soreness (Doms) Pada Otot Gastrocnemius Mahasiswi Fisioterapi Stikes 'Aisyiyah Surakarta. Stikes'aisyiyah Surakarta, 2017.
(32) Monica R, Irfannuddin I and Nasution N. Pengaruh latihan fisik intensitas ringan dan sedang terhadap perubahan kadar hormon Beta–Endorphin Mencit (Mus Musculus L.) Hamil. Biomedical Journal of Indonesia. 2017; 3: 91-7.