

Emotional Regulation Intervention for Reducing Distress Psychologist in Breast Cancer Woman: Systematic Review

Lilik Supriati¹, I Ketut Suidiana², Hanik Endang Nihayati^{3*}, Ahsan⁴, Muhammad Rodli⁵

1. Candidate of Doctor in Nursing, Faculty of Nursing Airlangga University, Surabaya, Indonesia/ Nursing Program, Faculty of Medicine Brawijaya University, Malang, Indonesia.
2. Professor, Medicine Faculty of Airlangga University, Surabaya, Indonesia.
3. Doctor in Nursing, Nursing Faculty of Airlangga University, Surabaya, Indonesia.
4. Doctor in Nursing, Nursing Program, Faculty of Medicine Brawijaya University, Malang, Indonesia.
5. Medical Doctor, Department of Anesthesiology and Intensive Care, Faculty of medicine Brawijaya University, Malang, Indonesia.

Abstract

The objective of this systematic review was to determine the effect of emotional regulation intervention on the psychological distress of breast cancer patients.

A literature search was performed in scientific databases, including Scopus, ProQuest, ScienceDirect and Ebsco. The research question was formulated using the PICO framework. Keywords included "breast cancer", "emotion regulation", "self-management", "self-regulation", "anxiety", "depression", and "distress psychology". Articles published from 2017 until 2021 were included. Database search returned 1,750 records. Title and abstract screening identified 41 potentially eligible articles. Finally, 10 articles were included in the synthesis of the review.

The tool for critical appraisal used checklist for randomized controlled trials from JBI systematic reviews. All the included studies had an interventional design focusing on emotion regulation approach for reducing psychological problem in breast cancer women. The selected articles, were divided into four intervention strategies, two were on expressive writing, six cognitive and mindfulness, and two relaxation strategies.

Emotion regulation intervention can be helpful in reducing psychological problems in breast cancer. Therefore, it is advisable to incorporate these strategies' emotional management together with other treatments.

Review (J Int Dent Med Res 2021; 14(3): 1296-1301)

Keywords: Emotion regulation, psychological distress, breast cancer.

Received date: 19 January 2021

Accept date: 06 August 2021

Introduction

Breast cancer is a stressful chronic disease and has implications for many aspects of a patient's life including physical, sexual and psychological health problems^{1,2}. Cancer is the leading cause of death worldwide, accounting for 7.6 million deaths or around 13% of total deaths in 2008³. This cancer mortality rate is a stressor that is often feared by patients.

The psychological problems most often experienced by cancer patients are stress, anxiety, fear and depression^{2,4,5}. If not handled properly, psychological problems

will lead to reduced adherence to treatment and potential developing distress into a serious psychiatric problem. It also can have a further impact as a crisis in the patient's life^{6,7}. The tendency of cancer patients is to overcome these psychological problems using nonproductive methods such as excessive sleep, avoidance, and denial^{8,9}.

Overcoming cancer requires considerable emotional regulation skills¹⁰. Patients must have the ability to change behavior to achieve life goals, achieve satisfaction and wellbeing and the ability to control stressful situations¹¹. If a patient has been able to manage their emotions effectively, they will have good endurance in dealing with these problems¹². So, there needs to be an intervention to give patients the ability to regulate emotions to overcome psychological problems such as stress, anxiety, depression, sleep disorders and sexual problems related to distress due to breast cancer.

*Corresponding author:

Hanik Endang Nihayati,
Doctor in Nursing, Nursing Faculty of Airlangga University,
Surabaya, Indonesia.
E-mail: hanik-e-n@fkip.unair.ac.id

Materials and methods

The literature search was performed in Scopus, ProQuest, ScienceDirect and Ebsco. Keywords included “breast cancer”, “emotion regulation”, “self-management”, “self-regulation”, “anxiety”, “depression”, and “psychological distress”. The full search strategy was adapted using terms and medical subject headings (MeSH) combined with Boolean operators. The keywords used to search those journals were “breast cancer” AND “Emotion regulation” OR “self-regulation” OR “self-management” AND “anxiety” AND “depression” AND “psychological distress”.

The research question was formulated using the PICOD framework, as “emotion regulation intervention for reducing psychological distress in breast cancer women “. Population (P): women with breast cancer; Intervention (I): emotion regulation strategies; Comparison (C): women with breast cancer receiving no intervention for emotion regulation; Outcome (O): the severity of psychological distress post-intervention; Design (D); include randomized controlled trials (RCT). Only articles published in English were included and publication years 2017 until 2021.

After the primary search, records were screened by title. From 1750 retrieved records, title and abstract screening identified 41 potentially eligible articles. Information was on demographics, study design, outcome measure, sample size, intervention, control, pre-post intervention mean, country and year of publication from each study. Information was collected on relevant outcome data and included number of participants. Finally, 10 articles were included in the synthesis of the review. The risk of bias was measured using the JBI Critical Appraisal to assess the quality of each study. Studies with RCT research designs were assessed using the JBI Critical Appraisal Checklist which consists of questions with “yes”, “no”, “unclear” and “not valid” answers. An assessment score that reaches a minimum of 50% then meets the critical appraisal with the cut-off point value agreed upon by the researcher. We did not include studies with scores below 50% to avoid bias in results and discussion. The JBI scores for each journal in this review >50 %.

This systematic review followed a preferred reporting items for systematic reviews (PRISMA)

guidelines for the stages of design and results.

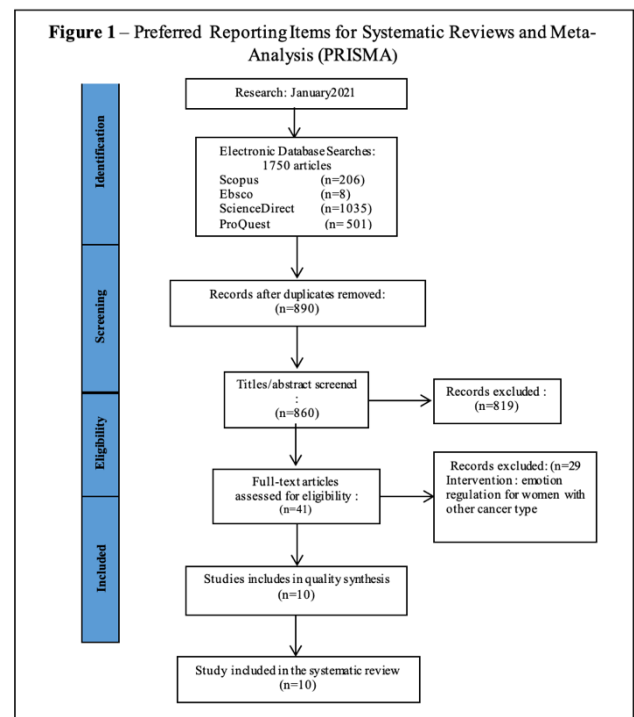


Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA).

Results

Three steps strategy was used in the initial phase of literature search in three databases with the specified keywords which then obtained 1750 articles, consisted of 206 articles from Scopus, eight from Ebsco, 1035 from ScienceDirect, and 501 from ProQuest. The second step was reviewing the abstracts retrieved for eligible criteria. We excluded some articles with PICOD framework. At the end of the process, we included fifteen studies which consisted of 10 studies which were randomized controlled trial. The selected articles were divided into four intervention strategies, two on expressive writing strategy, six on cognitive and mindfulness approaches, and two used relaxation strategy for emotional regulation.

The results were classified into primary (emotional regulation intervention) and secondary (impact of the duration as well as content of the session and the outcome for patient).

Almost all population characteristics in the study included were patients who had breast cancer over a 6-month period after diagnosis,

cancer stage I until III receiving adjuvant treatment and had undergone surgical mastectomy. The total sample in this study was 1498 patients, with sample sizes varied from 74 to 254 patients. Demographic characteristics included age, marital status, menopause status, type of treatment, tumor size, lymph node status, and stage of cancer. Several studies explained that bio-demographic data from all participants showed differences in homogeneity and were not significant between the two groups in terms of age, stage of cancer and type of treatment.

Two studies examined the effectiveness of expressive writing approaches for reducing psychological distress in patients with breast cancer. The number of sessions varied from 20 to 30 minutes every writing session once a week over three weeks (Jensen-Johansen *et al.*, 2018; Chu, Wong and Lu, 2019). On the first writing day, participants received a longer introduction to the writing exercises and were informed that they might experience changes in their mood, and to write about a traumatic or distressing event and to explore their deepest feelings and emotions associated with this experience.

They were free to write about their breast cancer as well as non-cancer experiences and to switch topics during the intervention. Six studies used cognitive and mindfulness strategy, and the number of sessions varied from 6 until 12 weeks intervention. They were provided understanding of the cognitive approach to manage moods and psychoeducation. Two articles were based on relaxation by dancing and continued progressive muscle relaxation from 3 - 12 weeks.

Discussion

Breast cancer is a chronic disease that is full of stress and has implications for many aspects of a patient's life¹. The ability to regulate emotions is very important for cancer patients to support the successful adaptation and the therapy. The ability to express emotions will make patient adaptation better. The diagnosis and treatment of breast cancer provides a stressful experience that creates many problems for psychological distress and negative emotions, such as anxiety, sadness, grief, fear of death and suffering. Breast cancer patients who are able to express their emotions not only have an impact on reducing psychological distress, but also improving the immune and endocrine

systems^{10,14,15}.

Ten studies aimed at managing and reducing negative emotions in patients with breast cancer were evaluated. The research was conducted in 10 different countries. In this systematic study, three groups of emotional regulation intervention approaches were identified, namely the expressive writing approach, cognitive and mindfulness strategies, and relaxation approaches. Research conducted by Jensen-Johansen *et al.* (2018) states that the ability to express and respect emotions has an important role in maintaining physical health and psychological wellbeing. Expression writing intervention is an effort to improve emotional regulation in reducing psychological distress and improving the physical health status of breast cancer patients. Research shows writing at least 20 minutes for three to four days about emotions associated with traumatic events is associated with lower psychological distress.

The intervention procedure process is carried out first by making a telephone to start a writing session and a call back after 20 minutes of writing to review and end the writing session. Breast cancer patient respondents wrote about the traumatic event that was felt or was full of distress by exploring the deepest feelings and emotions that were felt related to the experience. They wrote freely on topics about cancer or other experiences related to illness, such as death in the family, divorce, mastectomy, chemotherapy, and experiences using pain medication. The results of research on the effectiveness of writing as an emotional regulation intervention support research by Chu, Wong, and Lu (2019) which states that breast cancer patients who experience cultural acculturation who are followed up for six months writing as part of self-regulation techniques involving a more cognitive process show good results in managing emotions and reducing psychological distress and are useful in adapting a new view of life.

The prevalence of mood disorders is highest in the first year after breast cancer diagnosis and then decreases gradually over time. Distress has a significant negative effect on immune function, such as lowered natural killer cells (NK cells) and T lymphocytes (T cells). T cells have been linked to breast cancer recurrence and survival. Mindfulness-based stress reduction (MBSR) is an 8-week,

standardized program combining mindfulness meditation, yoga and other techniques designed to reduce stress and improve wellbeing and quality of life in patients with a wide range of chronic pain and stress disorders. The provision of MSBR has a useful impact on reducing the mood and emotional disorders of patients, especially depression, although it is not significant for the anxiety of breast cancer patients¹⁶. The positive effects of mindfulness training is through the development of new emotion regulation strategies, such as the ability to experience emotions by observing and accepting them without judgment.

Emotion regulation has been defined as "the process by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions". Mindfulness training theoretically alters how one experiences emotions because the training exercises teach participants to non-judgmentally observe and accept, rather than react to, their thoughts and feelings. Mindfulness interventions focus on practicing focus on relevant issues such as managing fear of cancer recurrence, and maintaining health as a survivor. This is done through group meetings six times for two hours per session. Key areas of focus in the mindfulness program were paying attention to the present moment, managing pain, working with negative emotions, and implementing mindfulness practices in daily life. Techniques for working with negative emotions included cultivating meta-awareness to learn to let go of difficult thoughts and feelings rather than being caught in them, and cultivating positive emotions to counteract a negative orientation¹⁷. Other studies about emotion regulation approach used relaxation. The term relaxation is often used to describe fun activities. Relaxation produces the effect of feeling happy, reducing tension, especially psychological tension related to life. The definition of relaxation proposed by McCaffery and Beebe (1989 cited in Kwekkboom & Gretarsdottir, 2006) states that relaxation is a relatively free condition from anxiety and tension which is manifested by calmness, peace and a feeling of lightness. Dance movement therapy (DMT) is a movement-based psychosocial intervention that incorporates the therapeutic components of dance movement and group psychotherapy, and emphasizes the

interconnection between the body and mind such that one can express their mind through body movements.¹⁵ It enables the patients to enhance self-expression, accept and reconnect with their bodies, cope with feelings of depression and fear, rebuild self-confidence, and strengthen personal resources. Dance relaxation provides an improvement in the symptoms of psychological distress in the form of reducing patient anxiety and depression¹⁸. Likewise, the relaxation technique of progressive muscle relaxation, which is a relaxation therapy with movements that tighten and relax the muscles in one part of the body at a time to provide a feeling of physical relaxation, has a positive impact on the anxiety of breast cancer patients.

Conclusions

In conclusion, this systematic review provides information about emotional regulation strategies to reduce distress in breast cancer women. It is important for providing nursing interventions to help breast cancer patients in increasing their ability to regulate emotions so as to reduce the psychological stress related to cancer and the therapies.

Acknowledgements

The authors thank the local authorities (Faculty of Nursing, Universitas Airlangga) for their support and contributions in this study.

Declaration of Interest

The authors report no conflict of interest.

First author/year	Country/state/cities	Sample size	Duration/Number of sessions	Outcome/Finding
Jensen-Johansen, et al (2018)	Denmark	507 (control group 254; intervention group 253)	20 minutes once a week, over a 3-week period :expressive writing approach	Impact of interventional expressive writing reducing on physical symptom and reporting fewer depressive symptoms and higher levels of positive moods.
Chu, Wong and Lu, (2019)	USA	96	write continuously for up to 30 minutes for 3 weeks :expressive writing approach	Writing the cancer-fact and self-regulation groups showed less severe post traumatic stress disorder symptoms.
Kenne Sarenmalm (2017)	Sweden	166	8 weekly group sessions : cognitive and MBSR approach	Beneficial effects of MBSR on psychological and biological responses that experienced significant improvements in depression scores, distress, symptom burden, and mental health
Gonzalez-Hernandez (2018)	Spain	95	8 continuous weeks, in a 2-hour: cognitive approach.	CBCT was effective in diminishing stress, fostering self-kindness and common humanity, and increasing overall self-compassion scores, mindful observation, and acting with awareness skillsets.
Crosswell (2017)	Los Angeles	39, control group 32.	6-weeks: mindfulness training	the intervention group showed a significantly decline in sadness and anger and decline in diastolic blood pressure. Groups did not differ in their self-reported feelings of anxiety, or in blood pressure, heart rate, or pre-ejection period (PEP) responses to the task.
(Al-Sulaiman et al., 2018)	Qatar	201	60- to 90-minute sessions, provided over a period of 12 weeks: cognitive approach	improving women's psychological well-being and quality of life over time. significant decrease in overall depression, anxiety and stress scores.
Park et al., (2020)	Tokyo, Japan.	intervention group = 38; control group= 36	8 weeks MBCT program, two hours per weeks : cognitive and mindfulness approach	improvement for their psychological distress both in anxiety and depression
Charalampopoulou et al., (2020)	Athens, Greece	60	8 sessions : cognitive approach	cognitive-based stress management combined with lifestyle counseling improve psychological distress, anxiety, depression), QoL during cancer treatment, sleep quality, lifestyle and hair cortisol concentrations of breast cancer patients during active therapy.
(Ho et al., 2016)	Hong Kong	147	3-week : relaxation approach	significant effects of DMT on stress, pain severity, and pain interference
(Gok Metin et al., 2019)	Turkey	63	20-min every day, for a total of 12 weeks: relaxation approach	fatigue severity scores and distress were significantly reduced. Relaxation also improved coping styles.

Table 1. Summary of Results.

References

- Ahadzadeh AS, Sharif SP. Uncertainty and quality of life in women with breast cancer: Moderating role of coping styles. *Cancer Nurs.* 2018;41(6):484-490.
- Avis NE, Levine BJ, Case LD, Naftalis EZ, Zee KJ Van. Trajectories of Depressive Symptoms Following Breast Cancer Diagnosis. 2015; 24(11) :3-10.
- Gopalan MR, Karunakaran V, Prabhakaran A, Jayakumar KL. Prevalence of psychiatric morbidity among cancer patients – hospital - based , cross - sectional survey. 2016; 58(3): 275-280.
- Chen YC, Huang HM, Kao CC, Sun CK, Chiang CY, Sun FK. The psychological process of breast cancer patients receiving initial chemotherapy. *Cancer Nurs.* 2016;39(6):E36-E44.
- Castillo A, Mendiola J, Tiemensma J. Emotions and Coping Strategies During Breast Cancer in Latina Women : A Focus Group Study. 2019; 17(3):96-102.

6. Acquati C, Kayser K. Predictors of psychological distress among cancer patients receiving care at a safety-net institution: the role of younger age and psychosocial problems. *Support Care Cancer*. 2017;25(7):2305-2312.
7. Lally RM, Bellavia G, Gallo S, et al. Feasibility and acceptance of the CaringGuidance web-based, distress self-management, psychoeducational program initiated within 12 weeks of breast cancer diagnosis. *Psychooncology*. 2019;28(4):888-895.
8. Costa DSJ, Mercieca-Bebber R, Rutherford C, Gabb L, King MT. The impact of cancer on psychological and social outcomes. *Aust Psychol Soc*. 2016;51(2):89-99.
9. Borstelmann NA, Rosenberg SM, Ruddy KJ, et al. Partner support and anxiety in young women with breast cancer. *Psychooncology*. 2015;24(12):1679-1685.
10. Cheng H, Sit JWH, Cheng KKF. A qualitative insight into self-management experience among Chinese breast cancer survivors. *Psychooncology*. 2017;26(7):1044-1049.
11. Kröz M, Reif M, Bartsch C, et al. Impact of autonomic and self-regulation on cancer-related fatigue and distress in breast cancer patients - a prospective observational study. *J Cancer Surviv*. 2014;8(2):319-328.
12. Gross JJ, Jazaieri H. Emotion, emotion regulation, and psychopathology: an affective science perspective. *Clin Psychol Sci*. 2014;2(4):387-401.
13. Chu Q, Wong CCY, Lu Q. Acculturation Moderates the Effects of Expressive Writing on Post-Traumatic Stress Symptoms Among Chinese American Breast Cancer Survivors. *Int J Behav Med*. 2019;26(2):185-194.
14. Boyle CC, Stanton AL, Ganz PA, Crespi CM, Bower JE. Improvements in emotion regulation following mindfulness meditation: Effects on depressive symptoms and perceived stress in younger breast cancer survivors. *J Consult Clin Psychol*. 2017;85(4):397-402.
15. Brandão T, Tavares R, Schulz MS, Matos PM. Measuring emotion regulation and emotional expression in breast cancer patients: A systematic review. *Clin Psychol Rev*. 2016;43(2):114-127.
16. Kenne Sarenmalm E, Mårtensson LB, Andersson BA, Karlsson P, Bergh I. Mindfulness and its efficacy for psychological and biological responses in women with breast cancer. *Cancer Med*. 2017;6(5):1108-1122.
17. Crosswell AD, Moreno PI, Raposa EB, et al. Effects of mindfulness training on emotional and physiologic recovery from induced negative affect. *Psychoneuroendocrinology*. 2017;86:78-86.
18. Hou WK, Liang L, Lau KM, Hall M. Savouring and psychological well-being in family dyads coping with cancer: An actor-partner interdependence model. *Eur J Cancer Care (Engl)*. 2019; 28(4):1-10.
19. Gonzalez-Hernandez E, Romero R, Campos D, et al. Cognitively-Based Compassion Training (CBCT ®) in Breast Cancer Survivors: A Randomized Clinical Trial Study. *Integr Cancer Ther*. 2018;17(3):684-696.