Psychosocial Interventions for Improving the Quality of Life in Breast Cancer Survivors: A Literature Review

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Abstract. Breast cancer is the most women’s cancer worldwide especially in developing countries including Indonesia. This cancer is affected women’s physically and psychologically. Those effects may influence women’s quality of life (QoL). An appropriate psychosocial intervention would be significant to survivors’ QoL. This study is aimed to identify interventions that effective in dealing with psychosocial problems, and in improving QoL. Methods, this review addresses the question: what interventions are effective in managing psychological problems in breast cancer survivors. We conducted a literature review, we searched PubMed, Ebsco, Cengage, and Cochrane for articles focusing on any types of psychosocial interventions. Through a database search, 543 articles were identified and after manual review, 7 studies were identified and appraised. Results, there were six randomized control trial and one quasi-experiment method involved in the analysis step. The interventions were 1) mindfulness therapy (4 articles)-2) behavioral therapy (2 articles), 3) acceptance and commitment therapy (1 article). The seven studies reported significant effects in reducing psychological problems such as anxiety, depression, and mood problems. The intervention also improved patients’ QoL. Conclusion and recommendation psychosocial interventions are effective to help breast cancer survivors as an individual, and none of those studies had involved family in interventions. There is a need to develop a study that involves the family in the intervention, as the family is the main support for Indonesian.

1. Introduction
Cancer is one of the leading causes of death worldwide. According to the GLOBOCAN (Global Burden of Cancer) data, the International Agency for Research on Cancer (IARC) found that in 2012 there were 14 million new cases of cancer and 8.2 million cancer deaths in the world [1]. It is estimated that annual cancer cases will increase from 14 million to 22 million in the next two decades [2] [3]. WHO estimates that by 2030 the incidence of cancer will reach 26 million people and 17 million of them will die [4]. Breast cancer is the first rank in the number of cases of cancer in the world, and the biggest cause of death due to cancer every year. According to WHO (2012), the prevalence of breast cancer was 1,677,000 cases where this cancer is the most suffered by women. There were 794,000 cases occurring in developing countries and caused 324,000 deaths from breast cancer [1]. The incidence of this disease is estimated to be higher throughout the world [1]. According to GLOBOCAN data in 2012, it was
known that breast cancer is the highest percentage of new cases, which is 43.3%, and the percentage of deaths 12.9% [2].

In Indonesia, Riskesdas data in 2013 presented the number of breast cancer patients in Indonesia was 61,682 cases. Breast cancer prevalence ranks second after the prevalence of cervical cancer. According to the type of cancer, most women’s cancer in Indonesia was breast cancer and cervical cancer, whereas men cancers include lung cancer and colorectal cancer. In 2010, the number of outpatients and hospitalizations in breast cancer was 12,014 people (28.7%) and cervical cancer 5,349 people (12.8%) (MOH, 2010).

Breast cancer is affected women’s condition physically and psychologically. This disease threatening a woman's self-identity, as the breast is one of women's identity. The influence of a disease on physical and psychological conditions would also affect patients’ quality of life [4]. Costa-Requena, et al. (2013) explained that the psychosocial impact experienced by breast cancer survivors including distress, anxiety, sadness, pessimism, self-esteem issues, those problems would affect their quality of life. Hinnen, et al. (2007) added that patients experienced anxiety, especially to their partner because they feel that they are no longer attractive and unwanted. Anxiety and depression often occur at an advanced stage, undergoing treatment, and waiting for the results of diagnostic tests. While stressors usually come from a loss of independence and self-control, despair, helplessness, changes in self-image and bodily functions, before death (Costa-Requena, et al., 2013; Murtiwi, Nurachmah, & Nuraini, 2005; Lund-Nielsen, 2011).

The psychosocial condition of women with breast cancer would affect the quality of life of patients. Nurses, part of health professionals who provide nursing interventions holistically and comprehensively system; physical, psychological and social aspects for all patients' health problems including breast cancer. Nurses carry out nursing interventions including physical and psychosocial interventions. Previous research has developed various interventions to address psychosocial problems in breast cancer, yet the intervention was a single intervention. This review literature aim was to find out various effective interventions to overcome psychosocial problems in women with breast cancer.

2. Research Method
The literature review was conducted by searching articles through several electronic databases including Pubmed, Ebsco, Cengage, and Cochrane with the keywords "breast cancer", "woman", "quality of life" and "psychosocial interventions". This searching found 543 articles, and then it selected according to the inclusion criteria. The inclusion criteria included English-language articles, samples were women with breast cancer, sample size> 30, published 2013-2018, full text, the intervention was explained clearly, and quantitative research (RCT and Quasi-experiment). Based on these criteria, 117 articles were selected and 2 articles were found to be duplicates. The next step was an abstract reading, authors selected 30 articles in accordance with the purpose of the literature review. Authors read the full text of the 7 articles and then assessed the article feasibility assessment using the JBI Critical Appraisal Checklist for RCT. The 7 selected articles are then extracted into tables and further analyzed by the research team. The search process, identification, filtering, feasibility assessment, extraction, and analysis of articles was carried out by the research team. The disagreement between the authors is resolved by discussion until a consensus is reached.
3. Results
The searching article processes obtained 7 articles related to psychosocial interventions in breast cancer survivors. 4 out of 7 articles examined the effectiveness of mindfulness therapy, 2 studies tested the effectiveness of cognitive behavioral stress management interventions, and an article about the acceptance and commitment therapy. Table 1 describes the contents of each article.

Table 1. Psychosocial interventions and Quality of life of breast cancer survivors

| No | Authors | Title | Setting | Design | Sample | Interventions | Instrument | Findings |
|----|---------|-------|---------|--------|--------|---------------|------------|----------|
| 1  | [6]     | Mindfulness stress reduction (MBSS) on breast cancer: evaluating | Philadelphia, USA | Randomized Controlled Trial (RCT) | 191 breast cancer women, age ≥ 21 years, diagnosed of recurrent breast cancer for 6 months-3 years. | The MBAT group: 8 meeting sessions in 8 weeks, each session 25-30 minutes, 5 sessions of health education, peer discussion for emotional support, a social worker or a psychologist as the facilitator. Health education topics include nutrition, sport, stress adaptation, a risk of cancer in the family, and management activities. Participants received a workbook as the guidelines, and non-verbal aspect was part of therapy. The BCSG group participants received intervention as the standard of hospital programs. | 1. Symptom Checklist-90-Revised for measuring Psychosocial stress 2. Medical Outcomes Study Short-Form Health Survey for assessing the quality of life | Both interventions had a significant influence on psychosocial stress and the quality of life. Different findings found in patients with high level of stress, the MBAT had a better effect to deal with high level of stress. The MBAT participants had a good maintenance of the effect therapy rather than another group. Significant improvements in quality of life were observed, physical functioning in both study arms. Conclusion: the MBAT is effective to help breast cancer patients dealing with psychological stress, especially high level of stress. This intervention also has improved the QOL of the MBAT group. |
| 2  | [7]     | Medical Outcomes Study Self-Reported Health Status (MOS) | Florida | Randomized Controlled Trial (RCT) | 82 breast cancer women, 2 groups: experimental group (n=40), control group (n=42). Inclusion criteria: stage I, II, III, of breast cancer. | Experiment group: 6 meeting sessions in 6 weeks for 2 hours each meeting conducted by a psychologist. Training material includes theoretical and practical of meditation (sit, walk), and yoga via audio. Participant report their activities in a | 1. Concerns about recurrence Scale (Fear and recurrence) 2. State-Trait Anxiety Inventory (STAI) 3. Center for Epidemiological | Experimental groups with MBSSR have reduced the fear of recurrence and improved physical function that reduces perceived stress and anxiety, significantly compared to the control group given regular care, yet the QOL was unknown |
| 3 | Mindfulness training for younger breast cancer survivors: a randomized controlled trial |
|---|---|
| Randomized Controlled Trial (RCT) | 71 women with breast cancer. Experimental group (n = 30), Control group (n = 32). Inclusion criteria: stage 0-III, age <50 years, has completed therapy at least 3 months. |
| Experimental group has received intervention: 6 meeting sessions in 5 weeks for 2 hours, including presentation of theoretical material about perimenopause, relaxation, and mindfulness connection; meditation practice and gentle movements; and psychoeducation, and then practicing at home every day for 5 minutes/day to 20 minutes/day. |
| Control group: offered to participate in the MAP class after the experimental group |
| Post-intervention assessments showed a significant decrease in stress perception (P = 0.004) and depressive symptoms (P = 0.004), as well as a significant reduction in pro-inflammatory gene expressions (P = 0.009) and inflammatory signals (P = 0.001). Secondary improvements also occurred in the form of decreased fatigue, sleep disturbances, and vasomotor symptoms and increased peace and meaning and positive influence (P < 0.05). Results on psychological and behavioral improvements are not maintained. |

| 4 | Randomized controlled trial of mindfulness-based cancer recovery versus supportive-expressive group therapy among distressed breast cancer survivors (MINDSET): long-term follow-up results |
|---|---|
| Randomized Controlled Trial (RCT) | 252 women with breast cancer. Two groups: MBCR group and SET group. Inclusion criteria: stage I, II, III, or IV treated patients, completed treatment >18 months, age >65 years, stress score ≥4. |
| MBCR group: 8 meeting sessions in 8 weeks for 90 minutes/session. Receiving mindfulness meditation and yoga training. SET group: 12 sessions in 12 weeks for 90 minutes/session. Receiving a manual treatment program and Intervention Program |
| 1. Profile of Mood States (POMS) 2. Stress Inventory (SSI) 3. Outcomes Study Social Support Survey (OSSS-SSS) 4. The Functional Assessment of Chronic Illness Therapy—Spiritual Well-being (FACT-Spiritual) 5. Growth Inventory: Revised (PTGI) |
| the MBCR group reported a greater decline in mood disorders and distress symptoms than the SET group. A measure of the effect of interaction time, most of the benefits maintained for 12 months of follow-up. |
| Conclusion: MBCR is better than the SET in improving psychological well-being with lasting benefits for more than 1 year. |

| 5 | The effectiveness of group training based on the quasi-experimental model |
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| The effectiveness of group training based on the quasi-experimental model | 30 women with breast cancer were divided into experimental groups (n = 15) and control. Experimental group: Attending protocol training based on Stevens C. Haynes book, held in 8 90-minute sessions (in 4 weeks). |
| 1. Beck Anxiety Inventory (BAI) 2. Beck Depression | In the experimental group, there was a significant decrease in anxiety and depression (p < 0.05), whereas no change in the control group. |
| 6 | [20] | **Long-term psychological benefits of cognitive-behavioral stress management for women with breast cancer: 11-year follow-up of randomized controlled trial** |
|---|---|---|
| | Randomized Controlled Trial (RCT) | Control group (n = 51) and control group (n = 49) |
| | **Experiment group:** Women with stage 0-IIb were recruited at 2-10 weeks postoperatively and randomized to CBBSM intervention for 10 weeks. Control group: 1-day psychoeducation program. |
| | FACT-B and CES-D | The CBBSM group reported significantly lower symptoms of depression (d = 0.63, 95% CI) and better QOL (d = 0.38, 95% CI). Conclusion: Women who received a postoperative CBBSM reported lower symptoms of depression and a better quality of life than a control group for up to 15 years later. Application of cognitive intervention: behavior can affect long-term psychosocial functioning in breast cancer patients. |

| 7 | [21] | **Randomized Controlled Trial of Cognitive Behavioral Stress Management at Breast Cancer. A Brief Report of Effects on 5-year Depressive Symptoms** |
|---|---|---|
| | Randomized Controlled Trial (RCT) | 240 women with stage 0-IIb breast cancer |
| | Exclusion criteria: severe depression, psychosis or suicidality | The study was conducted after 5 years. CBBSM intervention group for 10 weeks postoperatively, a follow-up from the beginning, single-blind, divided into two groups (N = 120) Control groups: receive a day psychoeducation training. |
| | CES-D scale | Participants who followed CBBSM experienced fewer symptoms of depression (M = 9.99, SE = 0.93) at follow-up compared with those in the control group (M = 12.97, SE = 0.99), p = 0.030. With covariates, group differences remained significant, p = 0.012. |
| | | Conclusion: Women with breast cancer who received CBBSM experienced lower depression than those in the control group at a 5-year follow-up. Psychosocial interventions at the beginning of treatment can affect long-term psychological well-being in survivors of breast cancer. |
4. Discussion

4.1 Mindfulness Therapy
Mindfulness therapy was effectively overcome the psychosocial problems experienced by women with breast cancer [6] [7] [8] [9]. Mindfulness therapy is an intervention to increase an individual’s awareness of everything, so that he/she is able to deal with and overcome to these conditions appropriately and positively (Gazella; Ramel, Goldin, Carmona, & McQuaid, 2004). In the case of breast cancer, the patients blame their health problems, feels scared, and depressed because of they aware that the disease is difficult to cure. The disease also affects the body image as a woman and is perceived as a deathly disease. In mindfulness therapy, the clients are guided to increase their awareness of the disease and may a negative response to them. This awareness helps patients to reduce emotional reactions to the disease that may cause negative emotions (Kabat-Zinn, 2003). As a result, the client would receive negative emotions, thoughts, and feelings, but they would also understand their fear and not react immediately to avoid the condition. They try to be calm down with the techniques taught and let the problem pass so that they are able to pass through these conditions, relax and enjoy their life.

Currently, Mindfulness therapy has developed by combining this therapy with other interventions. Monti, et al. (2014) used the basic concept of mindfulness and add nonverbal or art therapy aspects to represent the expression of the subject's feeling namely Mindfulness-Based Art Therapy (MBAT) [6]. Bower, et al. (2015) used meditation to improve the results of mindfulness therapy, namely mindfulness meditation [8]. Meditation is a training to focus concentration by focusing on sound, objects, visualization, breathing, movement, or attention to increasing awareness of current conditions, reduce stress, encourage relaxation, and increase personal and spiritual (Weymouth, 2007). Through meditation practice, an individual can focus on current events, avoid about the past experience or no worry about the future, finally she/he feels fine and calm. Lengacher, et al. (2014) use Mindfulness-Based Stress Reduction (MBSR) which has been developed by Kabat-Zinn (1982) [7]. MBSR is a structured therapy that includes psycho-educational interventions, mindfulness meditation exercises with yoga, body scanning, and discussion with social support. Although these studies used different measuring instruments, the results of the development of mindfulness therapy programs indicate an improvement in the psychosocial conditions and quality of life of women with breast cancer. Mindfulness therapy also provides more significant improvements compared to other therapies such as supportive-expressive group therapy [9] and support standards in distressed women with breast cancer [6].

In practice of the Mindfulness therapy is carried out by the daily exercise practice by individuals. Everyday training is done, and then it is expected that a person would accept the reality objectively and rationally. It was not easy when someone disconnected from reality and vacillated with fantasy. This literature review identified that mindfulness interventions therapy showed a significant improvement in person's awareness of his condition in pre and post-intervention. However, when the intervention was stopped and no followed up for a long time, there was no consistency in the improvement that had occurred before. It is necessary to develop further interventions so that mindfulness therapy programs are effective and sustainable as long-term therapies in a matter of years, for example by providing regular monitoring and evaluation of interventions. Involving family involvement or peer groups in interventions, as the family is essential for Indonesian, especially husbands [11].

4.2 Acceptance and Commitment Therapy (ACT)
Acceptance and Commitment Therapy (ACT) is one of the therapies to deal with psychological problems in women with breast cancer [10]. The ACT protocol focuses on the value and clarification of objectives with an emphasis on the willingness to accept all emotions and situations [12]. The ACT contains six processes, including acceptance, diffusion, present, self, value, and actions taken. The process of acceptance and diffusion deteriorates the destructive language; focus to yourself as a context and contact in this current situations; the values and actions, both are committed to establishing positive aspects into behavior changes [13]. ACT therapists encouraged someone to develop an attitude of accepting current conditions and increasing empowerment to be more positive [14]. After this therapy,
the patient is not considered as someone who is sick, but the patient has directed to the perspective of empowerment that life is valuable and meaningful for everyone. They perceived that pain is a part of life, not something to be removed. As a result, a person will leave the useless things to control emotions and eliminate negative experiences, and then to achieve psychological flexibility. Patients recognize the positive values they have, so women with breast cancer remain empowered in overcoming the crisis they experience, including anxiety and depression.

4.3 Cognitive Behavioral Stress Management (CBSM)
Cognitive Behavioral Stress Management (CBSM) is an intervention that aims to improve quality of life and reduce the anxiety of cancer and symptoms of depression (Antoni et al., 2001; Antoni et al., 2006). The latest analysis showed that the positive effects of CBSM in improving sleep quality and overcoming fatigue [15]. According to the literature results, it is identified as the need to analyze the long-term effects of psychosocial interventions, and treatment for patients with breast cancer (Ganz et al., 2002). The target of this therapy is to overcome the factors that contribute to the symptoms of depression, including cognitive assessment, coping, social support and distress (Bigatti, Steiner & Miller, 2012).

This intervention is also applied as psychosocial therapy for breast cancer patients. The psychological impact caused by chronic diseases such as breast cancer is loss and change. Loss and change are varied so it affects the ability of a person and family to reach an optimal level of survival [16]. Oetami, et al (2014) found that the psychological conditions of patients with breast cancer experienced a lot of helplessness and emotional disturbances such as crying (68%), and worry about thinking about a lot of treatment (84%), but there were respondents who did not feel embarrassed with breast cancer (72%), did not experience a decrease in self-esteem in the form of pessimism (80%), did not experience stress (64%), and was not angry carrying out treatment (64%) [17].

CBSM therapy is designed to teach strategies related to reducing anxiety, health promotion, cognitive restructuring, providing coping skills training, building interpersonal skills (communication skills, anger management, assertiveness training) and improving social networking (resources, support according to needs) [19]. According to Lechner (2013), this therapy can also be applied to breast cancer patients with different cultures (culture) [19]. In addition, Vargas (2014), found that 240 women with breast cancer found that CBSM therapy had improved sleep quality and reduced fatigue [15].

5. Conclusion
Therapy of mindfulness, acceptance and commitment therapy and cognitive-behavioral stress management have been identified as psychosocial interventions that effective in dealing with psychosocial problems in women with breast cancer. These interventions also improve the quality of life of breast cancer patients. However, the results of a long-term evaluation of these interventions found that patients did not consistently perform therapies that had been taught in the hospital. The results also showed that a few kinds of research involve support systems such as families or peer groups in interventions. Further research is needed to find an appropriate method for maintaining interventions that have been given, and to assess the family involvement or peer groups in interventions, as the family is always beside the patient and provide control over the application of interventions.

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