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Review

Empowerment in the treatment of fatigue in breast cancer patients

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Abstract: This review aimed at providing a summary of a collection of literature that covers breast cancer and related phenomena, namely fatigue and the disruption of self-esteem and body image that can occur when a cancer diagnosis is given. As the most common symptom reported by survivors, fatigue is a unique personal symptom that burdened survivors, a consequence as well as an antecedent. Fatigue in cancer is caused by disease processes as well as treatment side effects and becomes a serious problem compared to pain and nausea due to limited physical function, and psychological and social welfare. Facing the problem of fatigue, and poor self-esteem and body image in nursing science contributes to the empowerment of survivors; this is achieved through nursing processes and is a standard that can be used to solve fatigue problems.

Keywords: body image, breast cancer, empowerment, fatigue, nursing, self-esteem.

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Introduction

Cancer is different from other chronic diseases, as it has a pathology that can also cause deformity, pain, and mutilation, as well as having a psychological impact and causing significant negative feelings after the diagnosis is given. In Indonesia, the prevalence of breast cancer has reached 0.5 per 1000 women with an incidence of 40 per 100,000 women [1]. In 2010, the Hospital Information System noted that breast cancer is the type of cancer with the highest number of outpatients and inpatients, reaching 12,014 people in total (28.7%) [2]. In its statement on cancer, the World Health Organization (WHO) took steps to "develop standards and tools to guide the planning and implementation of interventions for the prevention, early diagnosis, screening, palliative care and care and survivorship, including childhood cancer." This action plan was called upon by the government to prevent and control non-communicable diseases (NCDs), which have a broad impact on a country.

In the course of treatment, patients often complain of symptoms that describe unmet needs, which are caused by physiological disorders of the body due to cancer or the side effects of drugs. Survivors will complain of disability, decreased function, and changes in all aspects of life, which lead to a decreased quality of life; fatigue is among the main symptoms that are often complained of [3]. Fatigue in survivors is an individual situation with different descriptions; it is described as feeling tired, weak, tired, lazy, heavy, slow, or like having no energy at all [4]. When compared to the pain, fatigue is a symptom that most often causes distress in cancer survivors [5]. Fatigue in cancer cannot be overcome, even though the survivor rests, as this is different from non-cancer fatigue, causing a broad impact on the quality of life [6].

Changes in the quality of life felt by survivors include physical, psychological, social and sexual welfare, which limit the patients' ability to function, socialize and participate in any activities that should be done quickly and pleasantly. An extended period of fatigue in cancer disrupts the way in which the survivor looks at and appreciates himself meaning that he is susceptible to self-esteem disorders. Fatigue is often said to cause them to resort to self-deprivation, loss of motivation, and feeling sad, frustrated and irritable because they often run out of energy, become slow and are unable to complete work. Survivors also experience the effects of impairment of cognitive function because of the slowing down of the thought process, making it difficult to remember information and focus their attention. This collection of complaints eventually makes survivors who are still working frequently ask for permission not to work [7], which causes a decrease in self-esteem and increases the risk of dissatisfaction with life [8, 9].

This review aimed to provide a summary of the collection of literature surrounding breast cancer and related phenomena, namely fatigue and the disruption of self-esteem and body image, which can occur after the diagnosis of cancer is given. This review presents a nursing perspective that focuses on empowering survivors of breast cancer about fatigue, self-esteem and body image.

Breast Cancer Cases

In Indonesia, more than 80% of cases are found at an advanced stage, when treatment is painful. According to the World Health Organization (WHO), breast cancer is the most common cancer in women worldwide, killing hundreds of

thousands of women each year and affecting countries at all levels of modernization [10].

According to the American Cancer Society, cancer is uncontrolled cell growth that can infiltrate the surrounding tissues and spread to other, more distant areas of the body. Usually, tumors are felt as a lump and will be called cancer if cells invade the surrounding tissue or metastasize to distal areas of the body which can often be seen on x-rays. Most types of cancer cells are named according to the first part of the body to develop them [11]. Cancer starts with cells that are fundamental building blocks, forming tissues such as the breast and other body parts. The cell growth process can become abnormal, and new cells form when the body does not need them; alternatively, it can also occur when old or damaged cells do not die properly. When this happens, cell formation often results in a mass network called lumps, growths, or tumors. Breast cancer occurs when a malignant tumor develops in the breast, and when these cells spread by breaking away from the original tumor and entering the blood vessels or lymph vessels, which branch into tissues throughout the body.

Genetically or environmentally, the DNA of cells is altered via a mechanism that has not been reported to suffer damage; this causes a person to develop cancer eventually. The majority of patients never know the exact cause of their cancer because there are several risk factors related to breast cancer. Risk factors increase a person's chances of getting the disease and different risk factors that cause different cancers; also, having a cancer risk factor does not mean that a person will develop cancer. Some women with one or more breast cancer risk factors may not develop breast cancer, while about half of women with breast cancer do not have a real risk factor [12].

Loss in Cancer

The International American Nurses Association (NANDA) defines fatigue as "extraordinary and sustained fatigue, characterized by a decrease in the capacity to do physical and mental work". Cancer fatigue is the most frequently reported symptom of survivors at the beginning, three months and six months after cancer treatment consultation [13] and is felt at different stages, for example during hospitalization or immediately after treatment. The prevalence of fatigue during cancer treatment ranges from 25% to 99% depending on the sample and the type of instrument used to measure fatigue [14]. The high prevalence of fatigue by survivors during chemotherapy can produce distress which ultimately affects many aspects of life [15].

To clarify the process of causing fatigue, there have been several studies that have tried to find a link between several factors, including inflammatory response to the cancer itself, the range of treatment modalities and neuroendocrine, cytokine and muscular changes [16]. Meanwhile, cognitive behavioral models open the link between behavior and cognitive as factors that aggravate and prolong fatigue during survival [18]. Cancer treatment also has the ability to cause fatigue. Although combination treatment modalities increase survival rates in certain cancer survivors, they can also increase overlapping side effects such as myelosuppression and fatigue. Bone marrow depression that increases in severity during certain points of the chemotherapy cycle has the potential to reduce red blood cell counts and white blood cells, thereby contributing to fatigue [18].

Fatigue can be misunderstood as a sign of the need for rest by reducing sedentary activities. However, this is different in the scope of cancer, where research reveals otherwise. Survivors with a high sedentary activity pattern have a significantly lower physical function, poor general health and low physical score [19]. Meta-analyses of inactive life state that this lifestyle effect is related to cardiovascular disorders, diabetes mellitus and cancer [20]. However, there have also been some other studies that prove the opposite of how sedentary life is not related to the quality of life in survivors of prostate cancer and colon cancer [21, 22],

The difference between fatigue in cancer and normal fatigue lies in the duration of fatigue that lasts for a long time and causes less rest, involving a heavier mental, physical, and emotional domain [23]. Therefore, it often causes a barrier for cancer patients to engage in various activities that need energy. This is what leads to 50% of survivors refusing to engage in physical activity. Several factors contribute to this reluctance, namely: level of education, quality of life and low self-efficacy and little social support [24, 25].

Survivors' counseling sessions most often provide advice for resting and relaxing [26]. Only 14-27% of survivors received advice on the management of fatigue, most of which was directed at conserving energy (26-65%) [27]. The suggestion of fatigue management is not presented in the form of increased physical activity.

Recommended interventions by the National Comprehensive Cancer Network (NCCN 2015), the Oncology Nursing Society (ONS 2014), the Canadian Partnership Against Cancer/Canadian Association of Psychosocial Oncology [28], and the identified American Society of Clinical Oncology include the management of concurrent symptoms, physical activity/exercise, rehabilitation, psychoeducation, meditation, attention-based stress reduction and cognitive-behavioral stress management, relaxation, cognitive behavioral therapy for fatigue, depression and pain, cognitive behavioral therapy for sleep, and yoga [6].

Self-concept Disorders

Self-concept is an individual's impression of the whole of himself, including opinions about himself, about self-image in the eyes of others and things that can be achieved. The concept of self-helps a person perceive himself and an environmental assessment of himself, which affects their behavior when interacting with the environment. Individuals with a positive self-concept show characteristics capable of solving problems, fulfilling life expectancy, accepting themselves, and being able to accept new experiences in their lives [29].

Self-concept consists of two types, namely self-concept desired (ideal) and actual self-concept (actual). The ideal self for individuals is healthy, capable and independent, without illness

Pride

According to Stuart & Sundeen [30], self-esteem is an individual's assessment of the results achieved by assessing how far the behavior fulfills their ideal goals. This is an individual's assessment of the personal value gained by analyzing how close his behavior is to the ideal. This high self-esteem is rooted in unconditional self-acceptance, despite making mistakes, and suffering defeats and failures, and still feeling an essential and valuable person [30]. In contrast, Burn [31] defined self-esteem as an individual's assessment of himself, which is hidden and not

stated. Self-esteem is used to refer to how people evaluate their abilities and attributes.

Cancer survivors generally show some differences in self-esteem throughout disease trajectory, which depends on several factors. Most research on self-esteem in cancer survivors identifies self-esteem as a valuable attribute that must be maintained. This opinion arises from the fundamental assumption that cancer and its handling are great stressors that can adversely affect a person's self-esteem. While other studies show that self-esteem in cancer patients is not affected by the stage of the tumor but by anxiety scores, and is directly proportional to the internal control locus and inversely proportional to patient depression [32].

Specific self-esteem predicts specific behavior, while global self-esteem predicts psychological well-being because specific prices have a stronger effect on behavior than global self-esteem [33]. This must be the basis for health workers in observing the changes in the value of survival through behavioral change.

Body image

The breast is a body part that is unique to women because it is a secondary sex organ, so changes in its form and function are related to sexuality [34]. Breast loss through a mastectomy procedure changes the appearance and sensual sensations of an individual, and also causes survivors to have difficulty recognizing themselves [35,36]. Body changes usually refer to changes in body anatomy and physiology through the occurrence of diseases, injuries or disabilities that also change the experiences, perceptions, and attitudes of survivors and ultimately affect their body image [37]. Fatigue felt by survivors adds to their dissatisfaction with their body image [38], while breast changes and fatigue will lead to survivors experiencing dissatisfaction and alienation, which will eventually lead to a disruption of body image. This is because individuals use their perspective in formulating behavior to interact with others [39]. An individual has a perspective of himself based on a combination of a real body (reality) and ideal body (body ideal), where the body that has been affected by cancer and its range of treatments are juxtaposed with body image according to a personal perspective of the appearance of an ideal body. Body image problems will limit survivors from having contact with others.

Chronic fatigue can affect an individual's body image and challenge them to review whether their body ideas continue. To overcome gaps and differences that arise between the two, individuals will make adjustments when displaying their body (body presentation), by strengthening the function or appearance of other bodies that are not affected by the disease.

Body image is defined as a subjective picture of an individual's physical appearance which is formed by self-observation and by observing the reactions of others. Chronic pain patients often experience the destruction of their former body image without experiencing any developments in respect of the new body image, and the accumulation of failure to maintain body image will erode self-concept [40]. Changes to the body caused by cancer or treatment threaten the identity of survivors, especially if changes to the body are permanent. Lymphedema, which changes the appearance of the body, significantly correlates with adverse changes in self-identity [41]. Body image disturbance, which is a construction of existence, can be perceived as a continuous identity disorder.

Understanding how self-identity shapes the perceptions of survivors of breast cancer will provide companions and health workers with insight into their survival experiences. Through trajectory risk, survivors experience a loss of productive functions, financial crises, family tensions and stigma [42-44]. Together it is chronic weakness and suffering due to reduced control over life and the future, meaning that patients not only lose their self-esteem but also their self-identity [40]. Self-identity represents the way in which breast cancer patients see themselves when they survive cancer and the physical changes caused by it [41].

Extreme pain experiences, such as cancer, expose challenges to all aspects of individual identity and make survivors' vulnerabilities increasingly clear [45]. There is a concept of a psychoeducation program that can be used to empower survivors to overcome body image disorders. The concept of psychoeducation consists of: (a) didactic components, in the form of health education, which provides information about diseases, (b) Components of skills, which provide training on communication, conflict resolution, problem solving, assertiveness, behavioral management and stress management, (c) emotional components, giving ventilation and sharing feelings with emotional support, and (d) social components, with the increased use of formal and non-formal networks. Increased contact with networks of resources and support systems that exist in the community will benefit families and clients [46].

Nursing Process

Nurses play a role in developing multidisciplinary training programs to help to manage fatigue and improve the quality of life of health among cancer survivors during and after treatment. This is possible if the series of nursing processes are carried out comprehensively and always starts from the problem assessment [47]. It is quite clear that the different factors in each survivor, namely types of cancer, types of adjuvant therapy, co-morbidity and lifestyle, lead to variations in the symptoms of physical and psychosocial disorders that require different treatment plans for each survivor [48].

At the core of the work, empowering survivors should highlight several factors: (1) the professionalism of the nurse with a humanist approach before internalizing the goals [49], (2) communication with the individualistic focus on conditions and fully supporting the patient [50], and (3) evaluations centered on planning so that the success of the empowerment process can be achieved [51].

Assessment

Although having a profound impact, fatigue is often underreported by the patient, so doctors undertreat it. Therefore, the careful assessment of patients will produce objective data and comprehensive subjective data [16]. Research that has developed in recent years has tried to explain survivors' experiences and make them an essential input in the development of oncology nursing. The experiences and perceptions of survivors are then processed to improve the results of nursing services. The motivation for survivors from the beginning of the process will help their participation in expressing complaints, including fatigue.

Some of the signs and symptoms that can be found in the study include: decreased concentration, decreased social sense of the environment, decreased libido, decreased alertness, feelings

of guilt for not being able to carry out responsibilities, increased physical complaints, changes in perceptions and verbal disclosure of an excessive lack of energy. Other individuals also complain of decreased appearance and performance, an inability to maintain a routine, an inability to restore energy despite sleep, increased resting needs, a lack of energy and an inability to maintain normal levels of physical activity, as well as lethargy and a lack of enthusiasm.

In order to obtain adequate and appropriate baseline data, early nursing services must screen all cancer survivors for fatigue. The NCCN recommends the use of a numerical rating scale in the activity of monitoring fatigue because it is considered secure and can include factors that you want to know. This rating scale uses a scale from 0 to 10, where 0 is no fatigue and 10 is severe fatigue [5].

Nursing diagnoses

Fatigue in cancer survivors, according to the classification of nursing interventions (NIC) and nursing outcome classification (NOC), is defined as a feeling of extreme and continuous fatigue and a decrease in physical and mental work capacity at a level greater than usual. Referring to the National Comprehensive Cancer Network is "... disrupting daily functions" [52].

The primary way to overcome fatigue is energy management. Through several studies, it was made clear that exercise carried out by cancer survivors was the most useful form of activity in resolving fatigue, followed by education and counseling [53, 54]. The clinical status of the survivor (when receiving active treatment, in the long-term follow-up, or at the end of life care) will determine the purpose of treatment and the choice of intervention. Therefore, the intervention must consider those factors associated with fatigue in intelligence such as pain, emotional stress, anemia, insomnia, nutritional problems, or comorbidities which can affect the course of the fatigue management process. Interventions are directed to reduce fatigue levels in line with improving quality of life.

There is a need for sustainable health and nursing services, but there are limitations to financing and insurance coverage regarding treatment time; patients are expected to take a more significant role in managing their follow-up care. For that, the current service system shifts to the empowerment paradigm. Empowerment is defined as the process of recognizing, promoting, and enhancing a patient's ability to meet his needs, solve problems and mobilize the resources needed to control his own life.

As part of the process of achieving the goal, the concept of empowerment is something that is desired and needed by survivors for several reasons, namely empowerment to make survivors (1) independent and valued, (2) have knowledge/information, (3) have psychosocial behavior skills, (4) get support from their community, family and friends, and (5) have the notion that they are useful [53].

Using the principle of empowerment, nurses can advocate and train survivors to perform (1) energy management, by regulating energy use by optimizing roles, learning how to assess fatigue, and identifying fatigue, (2) sleep enhancement, by strengthening and facilitating sleep cycles/building or using a common symptom management strategy for relaxation training, and (3) support system enhancement, by strengthening the support of family, friends and community. Support systems can help with nutrition planning, and providing activity planners to create balance and support for energy conservation.

The skillful management of energy (self-management) in fatigue is vital for survivors to remember how fatigue has a profound and broad impact on their daily functions and roles [55,56]. If nurses can stick to ideas about the positive consequences of empowerment, survivors will see the effectiveness of their actions and improve their adherence to nursing instructions. This is because understanding empowerment is a boost for survivors about achieving the desired results [57].

Physical intervention for fatigue

Some nursing research focuses on non-pharmacological solutions with physical activity intervention approaches, showing the importance of the role of physical activity in the prevention of cancer and that physical activity is a treatment for cancer.

The inclusion of sports has been suggested in the management of cancer-related fatigue. Some studies have been conducted to investigate the effects of exercise, both during and after treatment. Studies conducted to evaluate the effects of physical exercise on cancer-related fatigue revealed that aerobic exercise such as walking and cycling could help to reduce fatigue both during and after cancer treatment; this was shown in 56 studies involving a total of 4068 participants [58].

Regular exercise is used to reduce stress, and relieve anxiety and feelings of depression. Also, exercise also improves appearance and self-esteem [59] Research on exercise in a group of women with increased symptoms of depression showed a significant reduction in depression, and an increase in overall self-esteem, physical self-esteem, and physical condition [59], leading to longer survival in breast cancer and colon cancer [61].

Survivors can reap the benefits of sports including increased endurance, strength performance, reduced fatigue and improved quality of life [62, 63]. Walking exercise [64, 65], HIIT and weight lifting [66, 67] is considered safe and does not cause undesirable events, such as lymphedema in patients who are undergoing treatment. The American College of Sports Medicine has recommended that cancer survivors participate in aerobic activities with a minimum intensity of 150 minutes per week [68]. Recommended walking activity in cancer survivors is recommended for >90 minutes per week, with a speed that is normal or faster than normal, as studies have reported that vitality scores can be higher than in those who walk <90 minutes per week at a slow pace [21]. Undertaking 0.5 hours of quiet activity or ≥3 hours of walking per week can provide benefits by increasing the function of hormones [69]. Meanwhile, in a different study of stage II and III breast cancer, patients who performed yoga showed a significantly better role, social function and quality of life compared to breast cancer patients who used supportive therapy only [70].

To explore subjective perspectives on individuals regarding physical activity, a study was conducted to investigate the influence of exercise on physical self-concept, self-esteem, and well-being in patients with mental disorders. The intervention was carried out for 6 months, and measurements were taken 3 times: before, during training and 6 months after the intervention was carried out. The results show that exercise improves physical self-concept and decreases psychosomatic complaints [71].

Some things that need to be considered before carrying out an exercise program for cancer survivors are conditions that may be contraindicated, such as fever, bone metastases involving 25% of the cortex, and the patient's laboratory results. If the patient is receiving chemotherapy or experiencing a recurrence, high impact aerobic exercise is contraindicated [72]; this is also true if the laboratory values show WBC values <3000mm3, a neutrophil count <2500mm3, HGB <10g/dL, and platelets <2500mm3.

Some things that can be used as an indication that empowerment has been received are survivors following instructions from health workers about actions that they can undertake and actively asking questions or finding out about other things they can do [73].

To achieve optimal results from physical activity interventions, it is necessary to limit the duration of the program, frequency per week and duration per exercise. Exercises with too great an intensity will cause injury, while an intensity that is too low will fail to reach the goal of achieving health and fitness.

Psychosocial interventions

Physical activity carried out by survivors to reduce fatigue is not able to show the same effect on psychosocial fatigue [74] even though fatigue is also caused by psychosocial factors. Distress is one of several factors that cause fatigue. According to the NCCN guidelines, "distress" describes complex multi-factorial experiences that can include anxiety and depression, interfere with sleep and eventually worsen fatigue. Distress is the most potent factor related to the quality of life by influencing the patient's cognitive attitudes and abilities towards illness [75]. Scientific evidence shows that psychosocial interventions result in an improved ability of patients to manage emotional distress and short-term adaptive coping [76].

Psychosocial interventions can include psychoeducation support, cognitive behavioral therapy (cognitive behavioral therapy/CBT), and emotional expression. One of the most effective psychosocial approaches for cancer patients is psychoeducation [77]. Psychoeducation interventions are a form of education or training for someone with a mental disorder that is focused on treatment and rehabilitation processes [78]. The purpose of this therapy is to develop and improve patient acceptance of the disease, increase patient participation in therapy and develop coping mechanisms when patients face problems related to their disease [79]. The results of the study showed that the interventions in the psychoeducation group focused on active management strategies and physical activity benefited cancer patients [80], while other studies show several types of psychosocial interventions that can reduce fatigue, namely education on fatigue, self-care and coping techniques and activity management [81]. Combined cognitive behavioral therapy, relaxation techniques, and health education can also be performed to reduce distress in survivors [82] Also, psychosocial interventions result in improvements in the ability of patients to manage emotional distress and short-term adaptive coping [76].

This intervention is proven to be effective in improving the health-related quality of life (HRQoL), psychological well-being, self-efficacy and self-management skills [83], improving patients' ability to manage emotional distress, improving short-term adaptive coping with anxiety, increasing adjustment to disease and uncertainty [76, 85].

In this method, the focus of action is on increasing the strengths, resources, and skills of the patient's adaptation to the disease and the treatment process [79]. The type of psychoeducation intervention that can be done is through anticipatory guidance, psychosocial support, and energy conservation, as well as activity management [84], health education, increasing problem-solving skills and stress management [76]. In general, a comprehensive program of psycho-education consists of: (a) didactic components, in the form of health education, which provides information about diseases, (b) Components of skills, which provide training on communication, conflict resolution, problem solving, assertiveness, behavioral management and stress management, (c) emotional components, giving ventilation and sharing feelings with emotional support, (d) social components, increasing use of formal and non-formal networks.

Sedentary activity and quality of life are inversely proportional to a life spent with sitting activities, lowering the quality of life of breast cancer patients [86]. In line with this, the higher the volume of physical activity is carried out, the better the opportunity to improve the quality of life [87]. This proves that physical activity plays a vital role in the quality of life of cancer patients. There are many types of exercise included in the management of cancer, such as patient care to resolve symptoms in cancer related to quality of life including depression [88], distress [89], insomnia [87] and fatigue [90].

Evaluation

Activities that must be evaluated by nurses from survivors are empowered by proactive attitudes and effectiveness displayed in self-care activities, survivors' adherence to nursing instructions, endurance in carrying out meaningful daily activities, an ability to concentrate, and the expression of remaining energy conservation (conserving energy); this evaluation can be done individually, both qualitatively and quantitatively

Conclusion

After undergoing surgery and adjuvant therapy, survivors experience fatigue problems that contribute significantly to the problem of self-esteem and body image. Disease processes and treatment effects trigger fatigue in cancer. The nursing process series with an empowerment strategy is a standard of nursing action used to overcome the problem.

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Conflict of interest

The authors declare no conflicts of interest.

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