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## The impact of education on the benefits of cognitive-behavioral therapy on improving the quality of life of patients after breast cancer treatment

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### Abstract

Introduction: Treatment of breast cancer may be associated with the subsequent occurrence of many side effects, which may have a significant negative impact on the quality of life of patients after treatment. Such patients may experience bothersome menopausal symptoms, persistent pain, insomnia and depressed mood. The most common treatment to combat the above symptoms is pharmacotherapy, which in turn could also be associated with additional side effects. Cognitive-behavioral therapy can be an effective alternative to pharmacological treatment as well as an effective complementary treatment.

**Aim of the study:** The aim of the study is to summarize the current state of knowledge on the impact of cognitive-behavioral therapy on improving quality of life of patients after breast cancer treatment.

**Material and methods:** The literature available in the Pubmed database was reviewed using key phrases.

**Results:** Cognitive-behavioral therapy used in patients after breast cancer treatment brings good results in combating symptoms such as anxiety, depression, menopausal symptoms, persistent, chronic pain or insomnia resulting from the above symptoms. With the above therapy, you can correct not only the severity, but above all the perception of all of the above-mentioned symptoms, which is of key importance in the context of maintaining the quality of life as before the start of treatment.

**Conclusion:** The development of patient education on the benefits of using cognitive behavioral therapy as an adjuvant treatment after breast cancer treatment may have a beneficial effect on improving the quality of life in these patients.

**Key words:** breast cancer treatment; quality of life; cognitive-behavioral therapy

## I Introduction:

Breast cancer is the most common malignant tumor in the female population. As breast cancer treatments become more effective, the number of survivors increases. There are many methods of treating this cancer, but each of these methods may be associated with the occurrence of many factors that deteriorate the quality of life of patients after breast cancer treatment. In breast cancer, treatments such as chemotherapy, radiotherapy, surgery and hormone therapy may be partly responsible for symptoms such as menopausal symptoms, pain and insomnia, and the resulting depressed mood and even anxiety and depression [1]. The most common method of treatment to combat the above symptoms is pharmacological therapy [2]. This is usually an effective symptomatic treatment, but at the same time short-term. In addition, drugs are associated with additional side effects and additional costs. Cognitive-behavioral therapy can be an effective non-pharmacological alternative, being a method of causal treatment and not associated with the occurrence of additional side effects, as well as giving better long-term effects over a period of 3 years [3]. The use of the above therapy can be a beneficial addition to pharmacological treatment, thanks to which it is possible to modify the perception of somatic symptoms by patients after treatment, which can have a significant impact on the overall improvement of mood and reduce the interference of the above symptoms in the daily functioning of the patient in family, professional and social life.

## II Aim of the study:

Depressed mood and many somatic symptoms associated with breast cancer treatment are a frequent reason for lowering the quality of life in these patients. The aim of the study is to summarize the current state of knowledge on the impact of cognitive-behavioral therapy on improving quality of life of patients after breast cancer treatment.

## III Material and methods:

The literature available in the Pubmed database was reviewed using key phrases: breast cancer treatment, quality of life, cognitive-behavioral therapy.

## IV Results:

### Menopausal symptoms

After treatment for breast cancer, one of the most troublesome symptom complexes for a woman caused by the treatment are the symptoms of premature menopause. There is an increasing number of patients aged 40 and slightly above, in whom menopause has been induced as a result of treatment. It can lead to various abnormalities in the functioning of the body. If it appears several years earlier and moreover suddenly, it destabilizes the patient's emotional functioning. Patients may then experience heart palpitations, hot flashes, temperature rises, especially at night, the patient cannot concentrate, cannot function normally in both family and professional life [4], which often results in social withdrawal and deterioration of mood. In this case, apart from classic hormone replacement therapy, it would be beneficial to use cognitive-behavioral therapy in such a patient as a complementary treatment, radically changing the perception of the above symptoms, especially in the context of the patient's willingness to participate unhindered in social life, improving mood and what thus, an overall improvement in the quality of life after breast cancer treatment.

The results of the study conducted by Vera Atema [5] described that it was not age, time from diagnosis, current hormonal treatment, oophorectomy or psychological stress that influenced the effects of treatment of menopausal symptoms. The most significant factors influencing treatment outcomes were found to be the development of healthier beliefs about experiencing hot flashes in a social context, the impact of night sweats on sleep and daily functioning, and the ability to control and manage hot flashes. This proves that the use of the above-mentioned therapy can significantly contribute to the achievement of positive effects in the treatment of increasing menopausal symptoms.

### Pain

Persistent pain is also common in women who have survived breast cancer. Moderate to severe treatment-related pain is a significant problem in 14%-25% of patients [6][7]. Psychological factors modulate both perception and interpretation

of pain and coping with pain [8][9]. On the other hand, pain can modulate the patient's mood, sleep and social activity [10][11]. The difference between pain intensity and pain interference is a significant factor, and recognizing underlying psychological characteristics is necessary for successful pain management. Reetta Sipila, Eija Kalso, and Jörn Lötsch conducted a study [12], the aim of which was to identify clinically significant subgroups of patients in patterns appearing in many psychological parameters (mood, personality, resilience, pain catastrophism and sleep) and to interpret whether modulation of some of these of these parameters could have an impact on the change in the perception and interpretation of pain by the patient after breast cancer treatment. A subgroup of 402 women operated on for breast cancer at the University Hospital in Helsinki was examined [13][14]. The severity and interference of pain and its correlation with mood, pain-related catastrophizing, insomnia symptoms and personality traits were assessed. In the results, three variables most relevant to cluster segregation were identified in the initial stage - resilience, depressive symptoms and extroversion. Resilience probably enables patients to better adapt to pain and life after a major diagnosis [15]. Resilient people have been shown to have more positive thoughts about life's adversities, such as how difficult or life-limiting pain becomes [16]. Extraversion is a factor related to how well a person works with others or how well they receive social support [17] and may be related to the ability to receive and seek social support after breast cancer. During the study, patients with low resilience, depressive symptoms and low extroversion, constituted a separate group in which pain had a significantly stronger impact on life satisfaction and mood. In addition, parameters related to pain impact were found to be more important for this subgroup of patients than parameters related to pain intensity. This proves that it may be more important in planning pain treatment not to combat the intensity of pain, but to modulate the features that may affect the interpretation of this pain by the patient. In connection with the above study results, it can be assumed that the most important method of dealing with post-treatment pain may be the use of cognitive-behavioral therapy, during which it is possible to work with the patient on the most important parameters such as resilience, depressive symptoms, expression, which primarily affect important interpretation of pain. It follows that the use of cognitive-behavioral therapy in women after breast cancer treatment may be crucial in effectively combating persistent pain. In the initial post-treatment phase of breast cancer treatment, such therapy can help clinicians first identify patients who are less coping with persistent post-treatment pain, in order to also help in later stages of therapy to undertake specific psychosocial interventions that will ultimately lessen the impact of the presenting disease pain on the deterioration of the quality of life of these patients.

#### Insomnia

An additional symptom that may occur as an undesirable symptom after breast cancer treatment and at the same time may result from the previously discussed menopausal symptoms and pain is insomnia. Insomnia is two to three times more common in cancer survivors than in the general population [18]. Poor sleep is associated with higher levels of cancer-related fatigue, decreased quality of life[19][20] and possibly even an increased risk of all-cause mortality[21] and cancer recurrence[22]. The most frequently chosen method of treating insomnia is pharmacological therapy [23][24]. Hypnotic drugs such as benzodiazepine receptor agonists, however, are associated with side effects, dependence and tolerance, and are usually not curative, requiring maintenance treatment for many years [25]. Meanwhile, in the case of chronic insomnia, cognitive-behavioral therapy is the treatment of first choice [26]. Robert Zachariae and other members of the research team [27] tested the effectiveness of online cognitive-behavioral therapy in 255 Danish breast cancer survivors experiencing clinically significant sleep disorders. The online cognitive-behavioral therapy program used consisted of six main components. Online measures of insomnia severity, sleep quality, and fatigue were collected at baseline, after intervention (nine weeks) and follow-up (15 weeks). The results found large effect sizes for improving insomnia severity, sleep quality, and sleep efficiency; average effect sizes for increased total sleep time, less time in bed, and less early awakenings; and small effect sizes for shorter sleep onset delays, fewer nighttime awakenings, reduced fatigue, and less time spent awake after sleep onset. The effects of sleep have been described as long-lasting. Statistically significant were the effects of insomnia severity and sleep quality, which later showed tendencies to improve. The study concluded that cognitive behavioral therapy appears to be an effective treatment option for breast cancer survivors, with robust and clinically significant post-intervention outcomes for many sleep outcomes that were maintained six weeks after the intervention , with the added benefit of reducing fatigue.

A thorough analysis of the effectiveness of group therapy, including cognitive-behavioral therapy, in improving the quality of life of women with breast cancer was carried out in a study conducted by Ascensión Bellver-Pérez, Cristina Peris-Juan and Ana Santaballa-Beltrán [28]. 100 women diagnosed with non-metastatic breast cancer were examined. The study using group therapy was performed after the completion of conservative treatment and the aim of the study was to analyze the effect of therapy on reducing anxiety and depression in these women. The effects of therapy were also analyzed, both immediately after the psychological intervention and in the observation three months after the intervention. The study divided the patients into two intervention groups, in which two types of group therapy were used: a group of self-assessment and social skills and a group of cognitive behavioral therapy. The results describe that both treatments are associated with benefits, improved quality of life and improved mood. Comparing the two types of therapy, it was concluded that patients who received CBT-based treatment tended to increase their emotional well-being with respect to group self-esteem and social skills. This difference between the two groups was observed during the group intervention process and during the three-month follow-up. The results of the study described CBT as the most effective technique for localized breast cancer in both group and individual interventions. The greatest benefit was

observed for symptoms of anxiety and depression, and this benefit was maintained three months after the end of treatment.

### Conclusions

The dissemination and education of the society on the use of cognitive-behavioral therapy can be an effective alternative to common pharmacological treatment in order to improve the quality of life in women after breast cancer treatment. Including this method of treatment in anti-cancer rehabilitation programs brings many benefits, especially in the context of causal treatment instead of symptomatic treatment. Cognitive-behavioral techniques allow you to improve symptom control and work on coping with the disease. In addition, the effect of the above therapy may be the development of the ability to cope with anxiety and depressed mood, increasing the optimism of patients, increasing the sense of personal development, which can significantly change the perception of persistent symptoms in women after breast cancer treatment. The impact of cognitive behavioral therapy is described as long-term, which is an additional benefit compared to the short-term effects when using only pharmacological treatment.

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