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The Impact of Hypnosis on Quality of Life in Breast Cancer Patients: A Systematic Review

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ABSTRACT Cancer is a chronic disease that affects the patient's quality of life. An important cause of cancer is emotional stress, anxiety, and depression, and emotional stress is known to persist after cancer treatment. This systematic review aimed to determine the effect of hypnosis on the quality of life in breast cancer patients. A literature search was performed on databases from PubMed, SAGE, Scopus, ScienceDirect, and EBSCOhost, to identify articles published from 2017 to 2022. The keywords to search those journals were "hypnosis" OR "self-hypnosis" AND "breast cancer" OR "Breast carcinoma" AND "quality of life" OR "wellbeing". The detailed PICOT (Population, Intervention, Comparison, Outcome, Times) framework, established a priori, was used to include and exclude articles for this systematic review. The results of the search and assessment resulted in 44 articles and then data extraction was carried out on 15 articles. It was found that hypnotherapy during surgery, chemotherapy, and radiotherapy improved cognitive function reduced adverse effects on social and physical function, and improved overall quality of life in breast cancer patients. We suggest the need for randomized clinical trials to be conducted with sufficient follow-up and statistical power to confirm these results. The implication of this study is that hypnotherapy can be used as an effective complementary therapy approach to deal with the psychological and emotional aspects of breast cancer patients' experience

INDEX TERMS self-hypnosis; quality of life; breast cancer

I. INTRODUCTION

Breast cancer is the most frequent cancer among women, with psychological, professional, and social effects (1). Pain, fatigue, and sleep difficulties are the most common symptoms reported by individuals with cancer (17). Diagnosis and treatment, as well as the consequences on womanhood and everyday life, are often harsh. In this "hostile" environment, most women undergo breast surgery, which can lead to even more stress (2). According to current projections, the number of new cases of cancer is increasing and will grow from 14 million in 2012 to an annual global number of 22 million by 2030 (3). Breast cancer (BC) is the second most common cancer in the world in terms of new cases (1.7 million cases) and ranks fifth place as the cause of death (4). Cancer is a chronic disease that significantly affects the quality of life of patients who suffer from it because they must face stressful situations, including their diagnosis, surgical procedures, and the adverse effects of chemotherapy and radiotherapy. Women who have received medical treatment for breast cancer regularly report pain, fatigue, difficulty sleeping, nausea, vomiting, and hot flashes (5).

Chemotherapy also negatively affects the quality of life of women who suffer from breast cancer, particularly because of the side effects that affect their physical, functional, and emotional state (5). Among the wide range of psychological interventions, clinical hypnosis has proven its usefulness in improving the quality of life in different stages of breast cancer. Hypnosis has been defined as "a state of consciousness involving focused attention and reduced peripheral awareness characterized by an enhanced capacity for response to suggestion" (6). This state of consciousness is very suitable for cognitive processes and imagination, which can serve as a bridge in the mind–body gap, facilitating surprisingly, the cognitive control of somatic functions and offering an excellent opportunity to intervene during the process of physical healing. The use of hypnosis to treat medical or psychological problems is known as

hypnotherapy and has been used successfully for over 150 years in the reduction or elimination of surgical pain (6).

Research has shown that hypnosis and guided imagery techniques in both group and individual formats have been effective in assisting patients with many aspects of dealing with cancer and minimizing the side effects of chemotherapy and radiotherapy. Numerous researchers have indicated a positive impact for multiple side effects including pain relief, quicker wound healing, reducing stress, fatigue, insomnia, depression, anxiety, nausea, vomiting, and hot flashes (7). The purpose of this study was to determine the effect of hypnosis on the quality of life in breast cancer patients. The relevant articles were searched for from 2017 to 2022. This systematic review confirms that hypnotherapy can not only provide direct benefits in managing the physical and psychological symptoms of breast cancer, but also potentially improve the overall quality of life for affected patients. Further research is expected to further validate these findings and expand the understanding of how hypnotherapy can be integrated in breast cancer care more broadly.

II. METHODS

1. DATA SOURCES

The present study is a systematic review using a randomized controlled trial method. A literature search was performed on databases from PubMed, SAGE, Scopus, ScienceDirect, and EBSCOhost, to identify articles published from 2017 to 2022. The keywords to search those journals were "hypnosis" OR "self-hypnosis" AND "breast cancer" OR "Breast carcinoma" AND "quality of life" OR "wellbeing".

2. SELECTION CRITERIA

The detailed PICOT (Population, Intervention, Comparison, Outcome, Times) framework, established a priori, was used to include and exclude articles for this systematic review. Briefly, articles were included if they reported a study that compared women or men with breast cancer; following all active treatments completed (surgery, chemotherapy, and radiotherapy).

3. INCLUSION AND EXCLUSION OF STUDIES

The researchers who searched also performed the screening, quality assessment, and extraction of data. The main extracted data included the study ID, publication details, participant information (country, age, the current status of the disease, type of pain), and types of study: randomized controlled trials (RCTs) and pilot RCT. Only articles published in English were included. excluded studies that included quasi-experimental trials.

4. DATA EXTRACTION

The following information was extracted from 15 articles: information on demographics, study design, outcome measures, 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 point estimates, measures of variability, and number of participants. Where there was more than one article describing a study, data from the most current and comprehensive article was extracted, and any additional outcome data reported in additional articles were subsequently extracted.

5. QUALITY ASSESSMENT

The systematic review method was based on the PRISMA checklist (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) to strengthen reporting (Figure 1) (8).

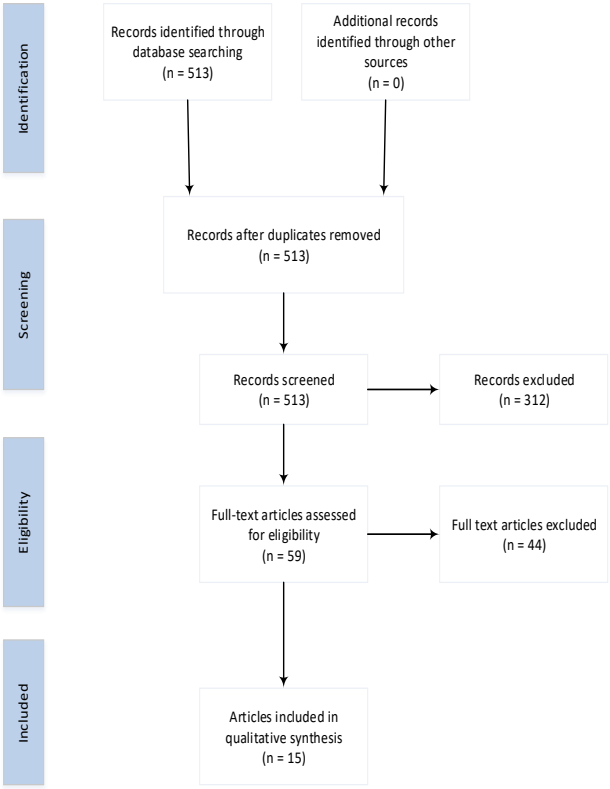

Figure 1 Flow diagram of the study selection process

III. RESULT

A. STUDY SELECTION

Three-step strategy is used in the initial phase of the literature search in six databases with the specified keywords and then several 513 articles. It consists of 92 articles from Scopus, 86 articles from ScienceDirect, 43 articles from EBSCO, 132 articles from Sage, 72 articles from PubMed, and 88 articles from ProQuest. The second step is to review the abstracts that were retrieved for eligible criteria. We exclude some articles that do not match to inclusion. The third step was reviewing full articles. Full article reviewed with PICOT framework. Relevant data regarding inclusion criteria

(participants, interventions, and outcomes), risk of bias, and results were extracted. Also, those were downloaded for full-text review. At the end of the process, 15 studies were included in this systematic review. 13 studies and 2 were added after a manual search was Randomized Controlled Studies (RCT) and another one was a protocol study. 13 studies used quantitative methods and 2 studies used a qualitative one.

B. CHARACTERISTICS POPULATION OF THE STUDY

Results regarding sociodemographic and clinical characteristics were that patients had an average age of 51.4 years and most were married (75.8%), almost half of them had attended elementary or middle school (48.5%), the majority were non-smokers (72.7%) and non-alcoholics (81.8%). Regarding the clinical characteristics of patients, almost half were diagnosed as premenopausal (42.4%), and most had a family history of cancer (60.6%).

C. CLINICAL OUTCOMES

This study reviews the effect of hypnosis on the quality of life in breast cancer patients. Important things caused by cancer are emotional stress, anxiety, and depression, and emotional stress is known to survive after cancer treatment. Whilst treatment is mostly aimed positive impact of hypnosis on various side effects of cancer treatments such as CRF (Cancer-related fatigue), sleep, and emotional distress, whether taught alone or combined with cognitive behavioral or self-care techniques.

V. DISCUSSION

In this systematic review, we evaluated the effect of hypnosis on the quality of life in breast cancer patients. The results study of Téllez, et al (2017) show that hypnotherapy applied intensively during the first month of chemotherapy treatment is an effective tool for reducing anxiety and distress and increasing optimism and self-esteem in breast cancer patients. The regular application of hypnotherapy sessions during the following 6 months allows optimism and self-esteem to increase from a medium to a large effect size. To the best of our knowledge, this is the first study that indicates that hypnosis can also increase optimism and self-esteem during the process of chemotherapy. Optimism is associated with better quality of life in women with metastatic breast cancer and lower levels of anger, pain, fatigue, and fear. Furthermore, maintaining adequate self-esteem is important for reducing anxiety and depression and for having a better quality of life (3,21). The obtained effect on self-esteem and optimism can be explained by the use of ego-strengthening techniques and the use of techniques for strengthening positive expectations because these are aimed at improving the patient's self-esteem and confidence and strengthening coping skills and self-efficacy. As the result of Grégoire, et al. (2018) were appeared that the two populations differed at baseline on several variables: women experienced more anxiety, more fatigue, and more severe sleep difficulties. They were also younger than men. These baseline psychological differences could be explained by the fact that most women in our sample endured several treatments (surgery, chemotherapy, radiation therapy, and/or hormonal therapy), whereas men mostly received only one surgical intervention. These multimodal treatments could negatively impact the women's well-being, as they are known to cause a lot of negative secondary effects (15).

According to research results from Grégoire, et al. (2018), Psychological intervention planning is needed based on the type of cancer and gender. As our results suggest, an intervention efficient for breast cancer patients could not be pertinent for prostate cancer patients. Several studies suggested that interventions including some physical activity such as fitness training, or concrete stress management techniques, were more accepted by men with cancer and more efficient to improve their well-being (4, 10). It seems important to assess the influence of the treatment trajectory on the efficacy of this intervention, as the type of treatment and the moment at which the patients participate in the intervention appear to impact our results. The result from Grégoire, et al. (2018) showed that the intervention combining self-care and self-hypnosis is efficient to improve emotional distress, fatigue, and sleep difficulties in women with breast cancer, but not in men with prostate cancer. These results could be explained by the baseline differences between those two populations, in terms of experienced symptoms, age, and treatments received. The literature from Miller (2017) that hypnosis is a beneficial tool in improving the quality of life for cancer patients in numerous ways and throughout the range of treatment possibilities. Yet hypnosis has not been readily available to the majority of cancer patients. This study shows that through self-hypnosis classes, those benefits may be able to reach a wider range of patients. The class format significantly reduces the costs of providing hypnotic integrative approaches to patients (6). Offering the classes at the treatment facility makes it convenient and more accessible. Many of the participants verbally reported that learning self-hypnosis and how to develop helpful suggestions for themselves was empowering and increased their self-efficacy. Participants reported that self-hypnosis was very useful and enhanced their quality of life (1).

Some limitations that need to be considered in the interpretation of results and generalization of findings Study Heterogeneity: Studies on hypnotherapy and breast cancer patients' quality of life may have variations in design, sample population, intervention duration, and outcome measurement. This heterogeneity may make it difficult to combine the data and interpret the overall results; Quality of life is a multidimensional concept that can be measured by various instruments. Some studies may use different instruments to measure quality of life, and these differences may affect the final results. In terms of context and Study Age: Breast cancer patients' quality of life may be affected

by external factors such as changes in treatment approaches, medical technology, and psychosocial support that may change over time.

Some suggestions for further research on "The Effect of Hypnotherapy on the Quality of Life of Breast Cancer Patients that can expand the understanding and support the practical application of the findings are 1) conduct RCTs with adequate sample size to directly evaluate the effect of hypnotherapy on the quality of life of breast cancer patients. This design can provide stronger evidence of the effectiveness of hypnotherapy compared to the control group receiving standard care or placebo. 2) Identify whether the effects of hypnotherapy vary depending on patient characteristics (e.g., age, cancer type, stage of disease), as well as examine whether there are interactions between hypnotherapy and other factors such as the type of conventional treatment received 3) Adopt a longitudinal approach to observe the long-term effects of hypnotherapy on the quality of life of breast cancer patients. This will help in evaluating whether the benefits of hypnotherapy are sustainable or may require ongoing sessions. 4) Studies on the implementation and integration of hypnotherapy in the clinical treatment of breast cancer.

Research has shown that hypnosis and guided imagery techniques in both group and individual formats have been effective in assisting patients with many aspects of dealing with cancer and minimizing the side effects of chemotherapy and radiotherapy. Numerous researchers have indicated a positive impact for multiple side effects including pain relief, quicker wound healing, reducing stress, fatigue, insomnia, depression, anxiety, nausea, vomiting, and hot flashes. Additionally, hypnosis and imagery have been used to provide suggestions for the body to accept and enhance the effects of medical interventions, thereby reducing anxiety, improving compliance with medical treatments, and reducing treatment side effects (11).

As a result, Sánchez-Jáuregui, et al. (2018) showed that before a breast biopsy, hypnosis significantly reduced stress, pain, anxiety, and depression levels, with a large effect size in the latter two. Music also significantly reduced stress and depression levels with a medium effect size, and a reduction in anxiety levels with a large effect size. When the two interventions were compared, hypnosis was also superior to music in reducing depression and pain levels with a medium effect size. The above indicates both hypnosis and music are effective for reducing emotional discomfort before entering the biopsy, with a certain advantage of hypnosis (8, 19). However, after the biopsy in the hypnosis group only the stress and anxiety levels were significantly lower, with a medium effect size. In the music group, the stress and pain levels were lower, compared to the control group. No difference was found between the hypnosis and music groups. These results from Mendoza, et al. (2016) on hypnosis as an adjunct to CBT to improve fatigue in patients undergoing radiotherapy for breast cancer and on hypnosis alone to reduce hot flashes, and to manage pain, fatigue, hot flashes, and sleep problems in women who are breast cancer survivors.

Based on the discussion of "The Effect of Hypnotherapy on Breast Cancer Patients' Quality of Life: A Systematic Review" has some important implications in the context of breast cancer treatment and improvement of patients' quality of life. Here are some implications that can be considered from the results of the study: 1) Improved Quality of Life: This study shows that hypnotherapy can contribute significantly in improving the quality of life of breast cancer patients. This can happen through the reduction of symptoms of stress, anxiety, and depression that are often associated with cancer treatment and diagnosis. 2) Complementary Approach: Hypnotherapy can serve as an effective complementary therapeutic approach to address the psychological and emotional aspects of the breast cancer patient experience. In systematic reviews, it is important to explore the extent to which hypnotherapy can be an integral part of a holistic treatment plan. 3) Education and Integration: The implications of this study also include the need for further education to health personnel regarding the benefits and application of hypnotherapy in breast cancer care. Integration of this method in clinical practice can increase understanding and acceptance of treatment alternatives that focus on the patient's quality of life. 4) Further Research Development: The results of this systematic review can be the basis for further research development, including more in-depth and specific clinical studies on the mechanism and effects of hypnotherapy in breast cancer patient population. 5) Psychosocial Support: The implementation of hypnotherapy in breast cancer care also highlights the importance of comprehensive psychosocial support for patients. This approach not only improves overall quality of life, but can also help patients deal with complex emotional challenges that often arise during treatment.

Thus, this study not only provides evidence on the potential of hypnotherapy as a valuable approach in improving the quality of life of breast cancer patients, but also highlights the importance of integrating a holistic approach in oncology care.

VI. CONCLUSION

This study shows that hypnotherapy can significantly contribute to improving the quality of life of breast cancer patients who receive treatments. This can happen through reducing symptoms of stress, anxiety, and depression that are often associated with cancer treatment and diagnosis. This study offers preliminary evidence of the utility of hypnotherapy during surgery, chemotherapy, and radiotherapy in increasing cognitive functioning and reducing adverse effects on social and physical functioning and overall quality of life in women or men with breast cancer. Further studies and more in-depth research are

needed to validate these findings and better understand the mechanism of action and optimization of the use of hypnotherapy in the context of breast cancer

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