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

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ABSTRACT Breast cancer is one of the most prevalent malignancies affecting women worldwide and is frequently accompanied by significant physical and psychological burdens that negatively impact quality of life. Emotional stress, anxiety, and depression are common among breast cancer patients and may persist throughout treatment and survivorship. In light of these challenges, complementary therapies such as hypnosis have gained increasing attention for their potential to alleviate psychosocial distress and improve patient outcomes. This systematic review aimed to evaluate the effectiveness of hypnotherapy in enhancing the quality of life of breast cancer patients. A comprehensive literature search was conducted across five major databases PubMed, SAGE, Scopus, ScienceDirect, and EBSCO hostfor articles published between 2017 and 2022. The PICOT framework was employed to guide inclusion and exclusion criteria, resulting in the selection of 15 relevant studies, primarily randomized controlled trials (RCTs). Data extraction focused on demographic variables, study design, type of intervention, and quality of life outcomes. The findings indicate that hypnosis interventions, whether conducted individually or in groups, are effective in reducing anxiety, depression, fatigue, and cancer-related symptoms such as pain, insomnia, and hot flashes. Several studies also reported improvements in cognitive function, emotional regulation, and social engagement. These outcomes suggest that hypnotherapy may serve as a valuable complementary approach during surgery, chemotherapy, and radiotherapy. Despite some heterogeneity among studies and limitations in standardization of outcome measures, the evidence supports the integration of hypnosis into holistic breast cancer care. Future research should focus on longitudinal studies with larger sample sizes to further validate these findings and assess the long-term sustainability of hypnotherapy benefits.

INDEX TERMS Breast cancer, hypnotherapy, quality of life, complementary therapy, psychological distress

I. INTRODUCTION

Breast cancer remains one of the most commonly diagnosed malignancies among women worldwide, accounting for approximately 2.3 million new cases and over 685,000 deaths in 2020 alone [1]. Despite advancements in early detection and treatment modalities such as surgery, chemotherapy, radiotherapy, and targeted therapies, breast cancer patients continue to experience a range of adverse physical and psychological effects [2]–[5]. These effects include pain, fatigue, insomnia, anxiety, depression, and fear of recurrence all of which significantly impair quality of life (QoL) during and after treatment [6], [7].

Conventional cancer therapies have improved survival outcomes; however, they often neglect the psychosocial dimensions of care. In response, complementary and integrative therapies have emerged as important adjuncts to conventional medicine [8]. Among these, hypnotherapy a therapeutic approach involving guided relaxation and focused attention has shown promise in alleviating cancer-related distress, managing symptoms, and enhancing overall well-being [9]–[11]. Hypnosis interventions are typically delivered in sessions before or during treatment procedures and are increasingly supported by clinical guidelines for pain and anxiety management [12], [13].

State-of-the-art research has demonstrated that hypnotherapy can significantly reduce preoperative anxiety, chemotherapy-induced nausea, hot flashes, and cancer-related fatigue [14]–[17]. Moreover, studies indicate that hypnosis may promote emotional regulation, improve cognitive functioning, and facilitate better adherence to medical treatment [18]–[20]. Despite these findings, there remains a lack of consensus regarding standardized protocols, frequency of sessions, and long-term effectiveness, creating uncertainty for clinical integration [21].

The research gap lies in the limited synthesis of recent studies evaluating the effectiveness of hypnotherapy in improving QoL specifically among breast cancer patients. While several randomized controlled trials (RCTs) and quasi-experimental studies have assessed hypnosis in oncology, few have focused exclusively on breast cancer or consolidated findings from multiple sources in a systematic manner [22], [23]. Furthermore, the heterogeneity of outcome measures and intervention designs in previous

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studies complicates the translation of evidence into practice [24].

In light of these challenges, the present study aims to systematically review the literature on the use of hypnotherapy to enhance quality of life among breast cancer patients, focusing on outcomes related to emotional, physical, and psychosocial well-being. The review addresses the current gap by aggregating evidence from multiple sources, critically analyzing methodological rigor, and identifying key trends and limitations in existing research.

This study offers the following key contributions:

1. It provides a comprehensive synthesis of recent evidence (2017–2022) on hypnotherapy as a complementary intervention for breast cancer patients.
2. It identifies patterns and inconsistencies in intervention design, outcome measurement, and reported benefits, offering insights for future clinical applications.
3. It proposes directions for future research and clinical implementation, with an emphasis on standardizing hypnotherapy protocols and evaluating long-term effectiveness.

II. METHODS

This study employed a systematic review design to examine the effectiveness of hypnotherapy in improving the quality of life of breast cancer patients. A structured methodology was adopted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA**)** guidelines [26].

A. DATA SOURCES AND SEARCH STRATEGY

A comprehensive literature search was conducted across five major scientific databases: PubMed**,** SAGE**,** ScienceDirect**,** Scopus, and EBSCOhost. These databases were selected due to their extensive indexing of health-related and clinical research articles. The search was limited to studies published between 2017 and 2022, in English, and focusing on breast cancer patients undergoing hypnotherapy.

The search terms used were derived from Medical Subject Headings (MeSH) and keywords relevant to the study, including: *"hypnosis"*, *"hypnotherapy"*, *"breast cancer"*, *"quality of life"*, *"complementary therapy"*, and *"psychological outcomes."* Boolean operators (AND/OR) were used to refine search combinations. For example, one search string included: ("breast cancer" AND "hypnosis") AND ("quality of life" OR "emotional well-being")**.**

B. INCLUSION AND EXCLUSION CRITERIA

The inclusion and exclusion criteria were established based on the PICOT (Population, Intervention, Comparison, Outcome, Time) framework [27]:

1. Population (P): Women diagnosed with breast cancer at any stage.
2. Intervention (I): Hypnotherapy or hypnosis-based treatment.
3. Comparison (C): Standard care, no treatment, or other psychosocial interventions.
4. Outcome (O): Measured changes in quality of life, emotional well-being, pain, fatigue, or anxiety.
5. Time (T): Articles published within the last five years (2017–2022).

a. Inclusion criteria**:**
   1. Primary research studies such as randomized controlled trials (RCTs), quasi-experimental studies, and cohort studies.
   2. Studies involving adult breast cancer patients (age ≥18).
   3. Interventions that clearly describe hypnosis or hypnotherapy procedures.
   4. Articles that report measurable QoL outcomes using validated instruments.

b. Exclusion criteria**:**
   1. Studies not focused on breast cancer patients or without hypnosis intervention.
   2. Reviews, editorials, letters, and conference abstracts.
   3. Articles not available in full text or not in English.
   4. Studies published before 2017.

C. STUDY SELECTION AND SCREENING PROCESS

After applying the search strategy, all identified articles were imported into **Zotero** for citation management and duplicate removal. An initial yield of 134 articles was retrieved. After removing duplicates, 85 articles remained. Title and abstract screening was then conducted independently by two reviewers to ensure alignment with the inclusion criteria. Any discrepancies were resolved through discussion and consensus.Full-text screening was performed on 36 potentially eligible articles. Based on detailed assessment, 15 articles were finally selected for inclusion in the review. The PRISMA flow diagram illustrates the selection process and is provided in Section III.

D. DATA EXTRACTION AND SYNTHESIS

A standardized data extraction sheet was used to record the following details from each selected study: author(s), year of publication, country, sample size, study design, intervention characteristics (frequency, duration, format), instruments used for QoL assessment, and main findings. Extraction was carried out independently by two researchers and cross-checked for accuracy.The studies varied in their design and outcome measures; hence, a narrative synthesis approach was adopted to analyze the findings. This involved grouping results based on QoL dimensions such as physical health (e.g., fatigue, pain), psychological well-being (e.g., anxiety, depression), and treatment-related side effects (e.g., hot flashes, insomnia).

E. QUALITY ASSESSMENT

The methodological quality of the included studies was appraised using the Joanna Briggs Institute (JBI) Critical Appraisal Tools, appropriate for different study designs [28]. RCTs were assessed for randomization, blinding, outcome assessment, and statistical analysis, while quasi-experimental studies were evaluated for causality and confounding factors. Each study was assigned a quality rating: high, moderate, or low.Of the 15 included articles, 10 were RCTs and 5 were quasi-experimental studies. Eleven were rated as high quality, and four as moderate quality.

F. ETHICAL CONSIDERATIONS

As this study did not involve direct human participants or the collection of new clinical data, ethical approval was not

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required. All included studies in this review had received ethical clearance from their respective institutions and had obtained informed consent from participants, as indicated in their reports.

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.

IV. DISCUSSION

A. INTERPRETATION OF RESULTS

This systematic review evaluated the effectiveness of hypnotherapy in improving the quality of life (QoL) of breast cancer patients. The findings from 15 selected studies revealed that hypnotherapy produced consistently positive effects on both physical and psychological well-being. Patients who underwent hypnosis reported reduced levels of anxiety, depression, fatigue, pain, and insomnia. Additionally, many studies noted improvements in emotional regulation, social functioning, and treatment adherence, supporting the therapeutic value of hypnosis as a complementary approach.These results suggest that hypnosis positively influences multiple QoL domains through cognitive and neurobiological mechanisms. Hypnotherapy enhances relaxation and alters pain perception by modulating activity in the anterior cingulate cortex and thalamus areas associated with emotional processing and sensory integration [34]. Moreover, the repeated practice of guided imagery and suggestion during hypnosis may enable patients to reframe distressing thoughts, thus reducing emotional burden [35]. The reduction in chemotherapy-related side effects, such as nausea and vomiting, further underscores its physiological impact.Although the interventions varied in frequency and delivery format (individual vs. group sessions), their effectiveness was generally consistent. Most studies delivered between three and six hypnosis sessions lasting 30–60 minutes each, suggesting that even short-term hypnosis protocols can yield measurable benefits for breast cancer patients.

B. COMPARISON WITH SIMILAR STUDIES

The outcomes of this review align with prior research highlighting the role of hypnotherapy in oncology. For instance, Montgomery et al. [36] conducted a randomized trial showing that breast cancer patients who received preoperative hypnosis experienced 56% less fatigue and 47% less pain compared to controls. Similarly, Schnur and Montgomery [37] reported that hypnosis significantly reduced intrusive thoughts and avoidance behaviors related to cancer trauma.

Moreover, a systematic review by Liossi et al. [38] emphasized that hypnosis is effective in managing procedure-related distress in pediatric and adult cancer patients. The review concluded that hypnosis is particularly useful for managing anticipatory nausea, procedural anxiety, and postoperative pain. These findings are congruent with the present study, in which 80% of the included articles identified pain reduction and anxiety management as primary outcomes.

A comparative study by Kwekkeboom et al. [39] further noted that hypnosis outperformed other mind-body interventions such as meditation and music therapy in improving emotional well-being. However, contrasting findings were reported by Roy et al. [40], who suggested that hypnosis showed only modest benefits in long-term QoL outcomes, especially beyond six months post-treatment. This discrepancy may be due to differences in patient populations, intervention duration, or outcome measurement tools.

One strength of the current review is its exclusive focus on breast cancer patients, as opposed to mixed cancer cohorts. This specificity enhances the relevance of findings to clinical practice, particularly in tailoring interventions to address the unique psychological challenges faced by breast cancer survivors, such as altered body image and fear of recurrence.

C. LIMITATIONS AND IMPLICATIONS

Despite the promising findings, several limitations must be acknowledged. First, the included studies varied considerably in design, sample size, and intervention protocols, which introduces heterogeneity and complicates direct comparisons. While randomized controlled trials (RCTs) constituted the majority, some quasi-experimental designs lacked blinding or allocation concealment, raising the risk of bias [41].

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Second, there was inconsistency in outcome measurement tools. Studies employed a range of instruments including the FACT-B, EORTC QLQ-C30, HADS, and BDI, making it difficult to synthesize results across QoL domains. Furthermore, only a few studies assessed long-term outcomes beyond six months, leaving questions about the durability of hypnosis benefits unanswered.

Third, many studies relied on self-reported outcomes, which may be susceptible to response bias. The lack of physiological measures (e.g., cortisol levels or heart rate variability) also limits the objectivity of the reported benefits. Future studies should consider integrating both subjective and objective assessments to capture the multifaceted effects of hypnotherapy.

In terms of clinical implications, this review supports the integration of hypnotherapy into breast cancer care, particularly as a non-pharmacological option to reduce emotional and physical distress. Given its cost-effectiveness, low risk, and minimal side effects, hypnosis can be implemented in various settings, including outpatient clinics, preoperative care, and survivorship programs. Moreover, the use of digital platforms for delivering hypnosis (e.g., audio recordings or mobile apps) may enhance accessibility, especially in resource-limited environments [42].

Health professionals should receive basic training in hypnotherapy or collaborate with certified practitioners to offer structured sessions tailored to patient needs. Additionally, clinical guidelines should incorporate hypnosis as part of supportive oncology care, especially for managing treatment-related symptoms and psychological distress.

The findings of this review also point to several directions for future research. There is a need for large-scale RCTs with standardized intervention protocols, longer follow-up periods, and more diverse patient samples. Researchers should explore optimal session frequency, delivery methods (e.g., virtual vs. in-person), and the role of patient engagement in enhancing hypnosis efficacy. Investigations into biological mechanisms underlying hypnosis-induced changes would further strengthen the scientific basis for its clinical application.

V. CONCLUSION

This systematic review aimed to evaluate the effectiveness of hypnotherapy as a complementary intervention in improving the quality of life of breast cancer patients. The rationale behind this research stems from the increasing recognition of psychological distress and symptom burden experienced by individuals undergoing breast cancer treatment, and the growing demand for integrative approaches to care. Based on a rigorous selection process, 15 studies published between 2017 and 2022 were analyzed, including randomized controlled trials and quasi-experimental designs. The reviewed literature demonstrated that hypnotherapy significantly contributes to improvements in both psychological and physical outcomes. Notably, reductions in anxiety and depression levels were reported in over 70% of studies, with effect sizes ranging from moderate to large. Moreover, interventions were associated with a 30% to 50% decrease in pain, fatigue, and sleep disturbances. Several studies also documented improvements in emotional regulation and cognitive functioning, while a few observed enhanced adherence to conventional treatment protocols. Despite variations in session frequency and intervention format, the majority of studies employed structured hypnosis techniques lasting 30–60 minutes per session, typically delivered over 3 to 6 sessions. However, this review also revealed several limitations within the existing body of research, including small sample sizes, inconsistent outcome measurement tools, and short follow-up durations. These constraints highlight the need for standardized protocols and longitudinal investigations to better understand the sustainability of hypnotherapy's benefits. Future research should focus on multi-site randomized trials with larger and more diverse patient populations, while also exploring digital or self-guided hypnosis delivery methods to increase accessibility. Furthermore, the integration of both subjective and physiological indicators is recommended to more comprehensively assess the impact of hypnotherapy. Overall, the findings affirm the value of hypnosis as a non-invasive, cost-effective adjunct to conventional breast cancer care, warranting greater clinical adoption and policy support.

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DATA AVAILABILITY

All data generated or analyzed during this study are included in this published article and its referenced sources.

AUTHOR CONTRIBUTIONS

Padoli conceptualized the study, designed the systematic review methodology, conducted the literature search, and drafted the initial manuscript. Nur Hasanah performed data extraction, quality assessment of included studies, and contributed to the critical analysis and interpretation of results. Nur Aini Luthfi Rahmawati supervised the research process, provided methodological guidance, reviewed the manuscript for intellectual content, and ensured adherence to PRISMA guidelines. All authors participated in revising the manuscript, approved the final version, and agreed to be accountable for all aspects of the work.

DECLARATIONS

ETHICAL APPROVAL

As this study is a systematic review of previously published literature, it did not involve human participants, and therefore ethical approval and informed consent were not required

CONSENT FOR PUBLICATION PARTICIPANTS.

Not applicable.

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COMPETING INTERESTS

The authors declare that they have no competing interests related to this study.

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