



Meditation effect on psychological stress level in women with breast cancer: a systematic review

Efeito da meditação no nível de estresse psicológico de mulheres com neoplasia mamária: revisão sistemática

Efecto de la meditación en el nivel de estrés psicológico de mujeres con neoplasia mamaria: revisión sistemática

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ABSTRACT

Objective: To evaluate the effect of meditation on the psychological stress level of women with breast cancer. **Method:** A systematic literature review performed in the LILACS, PubMed, Scopus, CINAHL and Web of Science databases. **Results:** The sample consisted of 22 studies using Mindfulness, Transcendental Meditation, and Contemplative Self-Healing Meditation techniques. There was a significant effect of meditation on stress reduction, post-traumatic stress symptoms, self-reported stress, and chronic stress verified. In some studies, the effect was associated with decreased cortisol and increased telomerase. **Conclusion:** Meditation has shown positive effects in reducing physical and emotional symptoms such as psychological stress, depression, anxiety, fatigue, fear of recurrence and rumination, representing an efficient strategy for coping with the disease and improving quality of life.

DESCRIPTORS

Breast Neoplasms; Stress, Psychological; Complementary Therapies; Meditation; Oncology Nursing; Review.

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INTRODUCTION

Breast cancer is a heterogeneous disease in relation to clinical, morphological and multifactorial aspects, involving biological-endocrine, reproductive life, behavior and lifestyle factors, with higher incidence and mortality in the female population in the world and in Brazil⁽¹⁾. Rates are higher in developed countries and vary across different national and global regions⁽²⁾.

It is considered a devastating disease, interpreted as a punishment⁽³⁾, involving feelings that are difficult to manage such as social stigma, fear of death, anger, irritation, anguish, despair and non-acceptance⁽⁴⁻⁵⁾. Changes in the lives of women with breast cancer are due to treatment which causes numerous repercussions⁽⁶⁾, including changes in body image resulting from alopecia/hair loss, weight gain, scarring and breast loss, which affect sexuality and self-esteem⁽⁷⁾.

Reactions such as asthenia, fatigue, nausea, vomiting, insomnia, loss of appetite, changes in body weight, hair loss and dyspnea are usually due to chemotherapy⁽³⁾ and cause sadness, anxiety and shame⁽⁴⁾. Dermatological reactions are frequent in women undergoing radiotherapy, leading to discomfort, pain and redness in the breast and armpit region⁽⁸⁾.

Psychological stress in this context of illness due to a stigmatizing disease is a frequent event in the lives of many women with breast cancer, with a prevalence rate of 35% to 60%⁽⁹⁾. In most cases it is due to concerns related to self-image, sexuality, loss of fertility, femininity, changes in autonomy and independence, among other factors⁽⁹⁻¹⁰⁾. In addition, it causes feelings of vulnerability, sadness and fear which can arouse debilitating situations in women, such as depression, anxiety, panic, social isolation, existential and spiritual crisis⁽⁹⁾.

Due to the difficulties in dealing with psychological stress and the feelings arising from the diagnosis and treatment of breast cancer, it is essential that health professionals perform screening and control⁽⁹⁾ in order to prevent debilitating complications. In this scenario, it is critical to plan and develop actions which help women in the coping process in order to provide a less traumatic and painful experience. In this sense, Integrative and Complementary Health Practices can be used as a natural mechanism for disease prevention, health recovery⁽¹¹⁾ and for managing symptoms related to the disease diagnosis and treatment⁽¹²⁾.

Meditation is a practice of harmonizing mental states and consciousness. It is present in countless cultures and traditions, brings benefits to the cognitive system, promotes concentration, aids in perception of physical and emotional sensations, increases self-discipline in healthcare, stimulates well-being, relaxation, reduces stress, hyperactivity and depressive symptoms⁽¹³⁾, decreases repetitive thinking, promotes favorable mood changes and provides greater integration between mind, body and the outside world⁽¹⁴⁾. Furthermore, this practice contributes to reducing levels of adrenaline and cortisol, stress and anxiety related hormones, and consequently intensifies the production of endorphin and serotonin, which are responsible for feelings of well-being and happiness⁽¹⁵⁾.

The effect of meditation on improving anxiety and mood disorders has been observed in studies, with evidence level "A" in reducing stress, depression, fatigue; and evidence level "B" in improving quality of life⁽¹⁶⁾. However, there are no clinical studies in Brazil to prove the effect of this act on symptoms related to the diagnosis and treatment of breast cancer, and no literature review to verify the effect on the psychological stress level of women with breast cancer, thus constituting the reason for which this study was conducted. Thus, the objective of this study was to evaluate the effect of meditation on the psychological stress level of women with breast cancer.

METHOD

STUDY DESIGN

A systematic literature review as recommended by the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA)⁽¹⁷⁾ guideline, which guides the application of a 27-item checklist and four-step flowchart focusing on clinical trials. The systematic review protocol was registered in PROSPERO: International prospective register of systematic reviews: CRD42018088863.

The PICO strategy was used to formulate the research question, in which P refers to the population or group of patients (women with breast cancer), I to Intervention (meditation), C to comparison (no comparison with other interventions), O to outcome (effects of meditation on the psychological stress level in women with breast cancer). The question of the systematic review was: what is the effect of meditation on the psychological stress level of women with breast cancer?

DATA COLLECTION

Data were collected in January and February 2018 from the following electronic databases: Latin American and Caribbean Health Sciences Literature (LILACS); Cochrane Collaboration; PMC (PubMed Central); SciVerse Scopus (Scopus); Cumulative Index to Nursing and Allied Health Literature (CINAHL); and Science Citation Indexes (Web of Science), accessed by the Higher Level Personnel Improvement Coordination (CAPES – *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*) Journals Portal, and the descriptors were selected after consulting the vocabularies Medical Subject Headings (MeSH), produced by the National Library of Medicine of the United States, Health Sciences Descriptors (DeCS – *Descritores em Ciências da Saúde*) and Titles of the CINAHL.

After combining the search terms, the following expressions were generated: LILACS: *neoplasias da mama AND meditação AND estresse psicológico*; PUBMED: *breast neoplasms AND meditation AND stress, psychological*; SCOPUS: *TITLE-ABS-KEY (breast AND neoplasms) AND TITLE-ABS-KEY (meditation) AND TITLE-ABS-KEY (stress, AND psychological)*; CINAHL: *breast neoplasms AND meditation AND stress,*

psychological, WEB OF SCIENCE: TS=(breast neoplasms) AND TS=(meditation) AND TS=(Stress, Psychological).

SELECTION CRITERIA

The studies were exported to BibTex format and imported to the StArt tool⁽¹⁸⁾, which assisted in the selection and data collection process, performed from a semi-structured form containing the following information: Title, publication year, objective, type of meditation, group and home practice, follow-up, professionals who conducted the intervention and significance of the studies. The advantages of this tool are the direct assistance of the investigator to the archives and a guarantee of uniformity in interpreting the data and criteria by which they are provided. Study selection was performed after thorough reading of titles

and abstracts, followed by analysis and interpretation of the results.

Clinical trials describing the effect of meditation on the stress and anxiety level of women with breast cancer were included in the systematic review, while studies which did not answer the research question, review studies, clinical trial protocols, ongoing clinical trials, theses, dissertations and monographs were excluded.

DATA ANALYSIS AND PROCESSING

Data extraction and analysis were performed by two reviewers independently. Grading of Recommendations Assessment, Development and Evaluation (GRADE)⁽¹⁹⁾ was used to evaluate the quality of the studies, which classifies them into four levels: high, moderate, low and very low. Figure 1 provides the description of the study selection process.

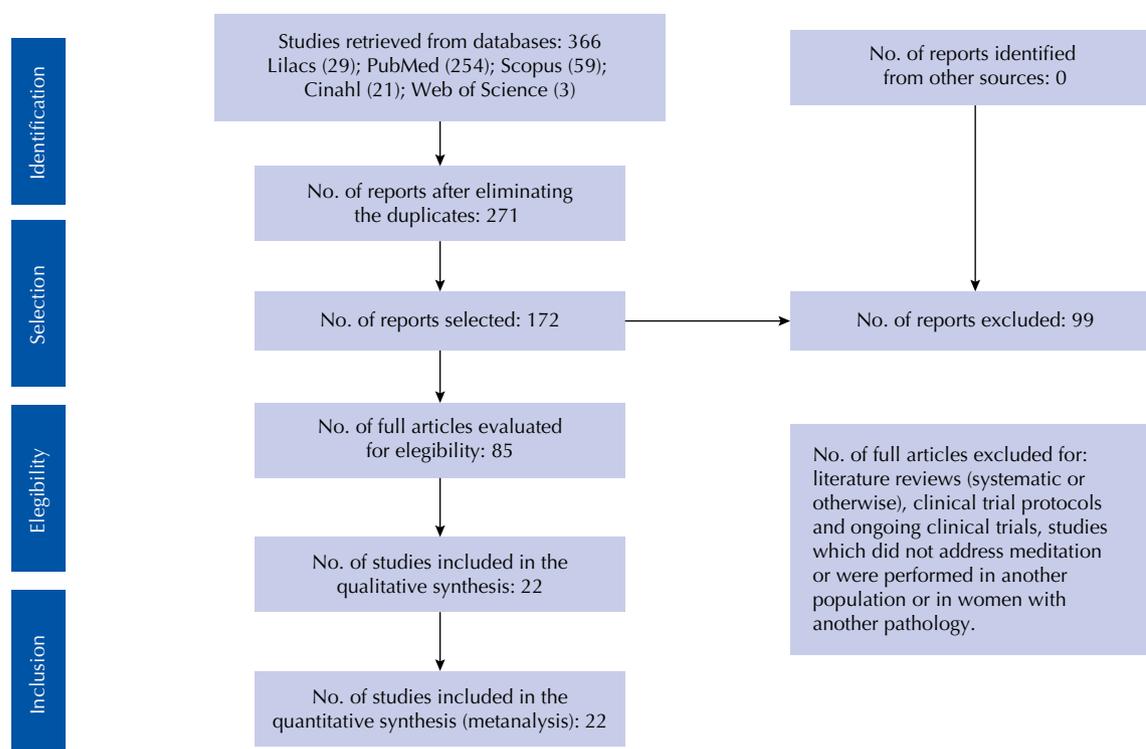


Figure 1 – Selection of studies included in the review – Brazil, 2018.

ETHICAL ASPECTS

A systematic review of the literature is a secondary study, therefore an evaluation by the Ethics Committee in research or signing of an informed consent form were not necessary.

RESULTS

First, 366 studies were retrieved. After applying the inclusion and exclusion criteria, 85 articles were considered eligible for title and abstract reading, of which 22 were selected for full reading, analysis and discussion. Publications

were identified in the years of 2017⁽²⁰⁻²²⁾, 2016⁽²³⁻²⁴⁾, 2015⁽²⁵⁾, 2014⁽²⁶⁻²⁸⁾, 2013⁽²⁹⁻³¹⁾, 2012⁽³²⁻³³⁾, 2011⁽³⁴⁻³⁵⁾, 2010⁽³⁶⁾, 2009⁽³⁷⁻³⁸⁾, 2008⁽³⁹⁾, 2007⁽⁴⁰⁾, 2003⁽⁴¹⁾. Most studies were conducted in the United States^(21-22,28,30,35,38,41), Denmark⁽³¹⁾ and Canada^(24,34,40). Regarding the level of evidence, three were classified as very low^(22,35-36), eight as high^(21,29-31,33-34,37-38), seven as moderate^(20,24-25,27-28,40-41), and four as low^(23,26,32,39).

In the analyzed studies, it was observed that age, breast cancer stage, treatment, diagnosis of other diseases, including severe mental disorders and the use of some medications were considered for the inclusion or exclusion of women.

The average age of the women who participated in the studies was 46.1 years⁽²⁵⁾, 49⁽³³⁾, 50^(21,28), 53.9⁽³¹⁾, 54.2⁽⁴⁰⁾, 54.6⁽³⁹⁾, 55⁽²⁹⁻³⁰⁾, 55.1⁽²⁴⁾, 55.3⁽²⁷⁾, 55.9⁽²⁶⁾, 56.8⁽³⁵⁻³⁶⁾, 56.9⁽²³⁾, 57.2⁽²⁶⁾, 57.5⁽³⁷⁾, 58⁽³³⁾, 60⁽²²⁾, 63.1⁽²⁷⁾, 63.8⁽³⁸⁾.

The staging behaved as follows: breast cancer in Stage 0 – II⁽³⁶⁾, Stage 0 – III^(21,25,28,30), Stage I – II^(21,27,29,35), Stage I – III^(22,26,31), Stage II – IV⁽²²⁾. Regarding the women: undergoing surgery, chemotherapy or radiotherapy^(20,22,27-28-29,30,39), on hormone therapy⁽²⁵⁾ or completed⁽³⁹⁾, no cortisol-related endocrine disorders⁽³⁴⁾ and not on systemic chemotherapy⁽²⁹⁾.

Among the other diagnoses used for exclusion were suicidal thinking^(30,32), severe depressive symptoms^(20,30,35),

severe or neurological mental disorder^(27,30-31,33-34,37), immune disease^(21,39) and uncontrolled active inflammatory disease⁽²⁵⁾, and lastly anxiolytic, antidepressant, psychotropic medications^(21,39), chronic substances^(29-30,32,34), corticosteroids⁽²⁹⁾, anti-hypertensive medication⁽³³⁾, Herceptin⁽²⁰⁾, diagnosed with another cancer (except non-melanoma skin cancer)^(21,25), as well as advanced breast cancer^(20,22,30,33,35,37), relapse^(25,27,30,33,35,37), metastasis^(22,28-27), inability to commit to the meditation program^(25,34) and previous participation in the Meditation Program⁽²⁴⁻²⁵⁾. The description of the authors, publication year and objectives are shown in Chart 1.

Chart 1 – Description of the analyzed studies according to authors, years of publication and objectives.

Authors/years	Objectives
Sarenmalm et al., 2017 ⁽²⁰⁾	To determine the effectiveness of mindfulness-based stress reduction (MBSR) meditation intervention for mood disorders in women with breast cancer.
Boyle et al., 2017 ⁽²¹⁾	To test emotion regulation strategies as mediators of MBSR intervention effects in a sample of young women treated for breast cancer, a risk group for psychological distress.
Offidani et al., 2017 ⁽²²⁾	To evaluate whether a Contemplative self-healing program has different effect on post-traumatic stress reduction among breast cancer survivors with or without chronic stress.
Johns et al., 2016 ⁽²³⁾	To compare MBSR to psychoeducation between persistently fatigued breast and colorectal cancer survivors and associated symptoms.
Carlson et al., 2016 ⁽²⁴⁾	To measure the effects of two interventions (MBSR) and Supportive Expressive Group Therapy (SET) on breast cancer survivors.
Bower, 2015 ⁽²⁵⁾	To evaluate the feasibility and effectiveness of an MBSR intervention for women who were diagnosed with breast cancer before or at age 50.
Charlson et al., 2014 ⁽²⁶⁾	To evaluate the results of a 20-week contemplative self-healing program on the quality of life of women with breast cancer.
Lengacher et al., 2014 ⁽²⁷⁾	To investigate the effects of MBSR meditation on telomere length and telomerase activity.
Lengacher et al., 2014 ⁽²⁸⁾	To investigate the action mechanisms of MBSR in reducing fear of recurrence and other potential mediators.
Henderson et al., 2013 ⁽²⁹⁾	To test the relative effectiveness of MBSR compared to a nutrition education and usual care intervention in newly diagnosed women with early-stage breast cancer undergoing radiotherapy.
Carlson et al., 2013 ⁽³⁰⁾	To compare the effectiveness of two group interventions in helping distressed breast cancer survivors: MBSR and Supportive Expressive Group Therapy (SET).
Andersen et al., 2013 ⁽³¹⁾	To determine the effect of the MBSR program on sleep quality in breast cancer patients, stress reduction and hot flashes.
Hoffman et al., 2012 ⁽³²⁾	To evaluate the effectiveness of MBSR in relation to mood, quality of life and well-being after hospital treatment in women with stage 0 to III breast cancer.
Lengacher et al., 2012 ⁽³³⁾	To investigate the prevalence and severity of symptoms and symptom clustering in breast cancer survivors who participated in the MBSR.
Matousek et al., 2011 ⁽³⁴⁾	To assess changes in cortisol awakening response (CAR) level following participation in the MBSR Program in women who have completed breast cancer treatment.
Lengacher et al., 2011 ⁽³⁵⁾	To evaluate the positive effect of MBSR on the psychological status of breast cancer survivors, psychosocial characteristics, symptoms, and quality of life during treatment until returning to daily activities.
Matchim et al., 2010 ⁽³⁶⁾	To examine the effects of an MBSR program on physiological and psychological outcomes among early stage breast cancer survivors.
Lengacher et al., 2009 ⁽³⁷⁾	To determine if an MBSR intervention is effective in improving the physical and psychological status of breast cancer survivors compared to usual care, and whether such effects are modified by the extent of compliance with the MBSR program.
Nidich et al., 2009 ⁽³⁸⁾	To evaluate the impact of the Transcendental Meditation program and standard care compared with standard treatment alone on the quality of life (QoL) of older adult women (≥55 years) with breast cancer, stages II to IV.
Witek-Janusek et al., 2008 ⁽³⁹⁾	To evaluate the effect and viability of an MBSR program on immune function, quality of life and coping in women recently diagnosed with breast cancer.
Carlson et al., 2007 ⁽⁴⁰⁾	To investigate the effects of continuous participation in an MBSR program on quality of life (QoL), stress symptoms, mood, and endocrine, immunological, and autonomic parameters in early stage breast and prostate cancer patients.
Carlson et al., 2003 ⁽⁴¹⁾	To investigate the relationship between an MBSR program for early stage breast and prostate cancer patients and quality of life, mood, stress symptoms, lymphocyte count and cytokine production.

A description of the type of meditation program, group and home practice, follow-up time, and the professionals who conducted the intervention can be found in Chart 2.

Chart 2 – Meditation program details.

Types of meditation and group practices
<i>Mindfulness-based stress reduction</i> . Kabat-Zinn. Eight-week group activity program (meditation, mindfulness, yoga), orientation, practice, home, handbook, CD, and home practice diary ^(20-28, 31-32,34,41) .
<i>Mindfulness-based stress reduction</i> . Kabat-Zinn. Program adapted for 6 weeks of group activities (meditation, mindfulness, yoga), home practice guidance, handbook, CD, and home practice diary ^(20,26,30,36-37) .
<i>Mindful Awareness Practices</i> (MAP) of the University of California, in Los Angeles. Six weekly sessions in a group of 2 hours. Presentation of theoretical material on mindfulness meditation, relaxation and mind-body connection ^(25,28) .
Contemplative self-healing meditation. Eight-week program, 90-minute group class. Meditation, conscious breathing, healing images. Reading material, audio tapes and diary provided ^(22,26) .
Transcendental Meditation Program. Seven-step program from 1 to 1.5 hours. Lectures, personal interviews, instruction, monthly group meetings, and home practice ⁽³⁸⁾ .
Home Practices
Delivery of informative material, CD disc and diary for making notes; initial sessions of five to 20 minutes, 6 days a week ^(20,24,26,33-36,38,41) .
Encouraging formal practice (sitting, lying, walking meditation and conscious and informal movement of meditation (awareness and attention in daily activities, eating, commuting, talking, etc.) ^(27-28,30,34,37) .
Follow-up
Two months ^(20-23,26,29-30,32,34-36,41)
Six weeks ^(24-25,27,30,33,37,40)
Four months, 12 months and 24 months ⁽²²⁾
Three months ⁽²⁸⁾
Eighteen hours ⁽³⁸⁾
Two months, 6 months and 12 months ⁽³¹⁾
Professionals who conducted the intervention
Physician and psychologist with experience in MBSR ^(23,26,28,30-31)
Psychiatrist with experience in MBSR ⁽²¹⁾
Certified instructors ^(20,30,38)
Qualified Researcher, MBSR Instructor, University of Massachusetts Full Care Center ⁽³²⁾

Chart 3 shows the significance of the effect of meditation on the psychological stress level of women with breast cancer who participated in the studies included in the review, categorized as: high significance⁽⁺⁺⁺⁾, moderate significance⁽⁺⁺⁾ and low significance⁽⁺⁾. Meditation had a significant effect on reducing psychological stress^(25-26,29,34,37), reducing cortisol^(30,34,39-41), depression^(20,25,34,37), anxiety^(20,27,35,37), improving the quality of life^(22,30,32,35,37), among other factors.

The following instruments were used to evaluate the effect of meditation on stress level: Stress Inventory (SOSI)^(24,30-31,36,38-39,41), Perceived Stress Scale (PSS)⁽²³⁾, Stress and adversity resilience scale⁽²¹⁾, Post-traumatic stress disorder symptom scale (PTSD)⁽²²⁾, Post-traumatic Development Inventory (PTGI)^(20,36), as well as salivary cortisol level assessment^(32,36-40) and telomerase⁽²⁷⁾.

Other aspects were evaluated such as mood, coping, social support, fear of recurrence, depression, anxiety, quality of life, symptoms (nausea, vomiting, fatigue, malaise), optimism, mindfulness and sleep quality with the aid of: the Mood State Scale (POMS)^(24,36,41), the Jalowiec Coping Scale (JCS)^(32,37), the Sense of Coherence scale (SOC)^(27,36,38,41), the Social Support Scale (MOS-SSS)^(24,27,34,39), the Fear of Recurrence Scale (QLACS)⁽²⁵⁾, the Patient Health Questionnaire or PHQ-9⁽²⁵⁻²⁶⁾, the Beck Depression Inventory^(21,30,34), the Beck Anxiety Inventory^(26,34), the Functional Assessment of Cancer Therapy-Breast (FACT-B)^(20-21,24,26,32,38-39), the Global Quality of Life Scale (EORTC QLQ-C30)^(35,38,40-41), the Vitality Scale (SF-36)^(20,23,30,32), the Medical Symptom Checklist (MSCL)^(22,34,38), the Fatigue Symptom Inventory (FSI)⁽²⁰⁾, the

MD Anderson Symptom Inventory (MDASI)⁽³³⁻³⁵⁾, the Optimism Scale (LOT-R)⁽³⁴⁻³⁵⁾, the Five Facet Mindfulness Questionnaire (FFMQ)^(20,38), the Mindful Attention Awareness Scale (MAAS)⁽²⁹⁾, the Insomnia Severity Index (ISI)⁽²⁵⁾, and the Pittsburgh Sleep Quality Index (PSQI)^(25,31,35-36).

Chart 3 – Significance description of the effect of meditation on the psychological stress level of women with breast cancer who participated in the studies included in the review.

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
20					+++	+++	+++		+++							
21				+++		+++	+++	+++		+++	++					
22	+++			+++		+++	+++	+++	+++		+++	+++	+++			
23	+++		+++													
24	++					+++	+++						+			
25	+++															
26	++					++	++			+++	+++		+++			
27		+++	++						+++						+++	
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29		+++	+++											++		
30			+++			++		+++								
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35	+++		+++			+++	+++									
36																
37	+++											++				
38	+++															
39	+++	+++	++	++	++											
40	++	+++	++													
41	++		++		++											

a-Stress Level, b-Cortisol Level Reduction, c-Quality of Life, d-Sleep Quality, e-Mood, f-Depression, g-Anxiety, h-Fatigue, i-Immunity, j-Vitality, k- Pain, l-Clusters, m-Fear of recurrence, n-Spiritual Support, o-Coping, p-Mindfulness.

DISCUSSION

The study identified a predominance of Mindfulness-Based Stress Reduction Meditation Programs (MBSR), mostly based on and adapted from the original Kabbat-Zinn Program, the founder of the method^(23,27,30-32,34,36), and which has been widely used and disseminated in healthcare facilities in the United States^(25,30). Integrative and Complementary Practices in Brazil were only institutionalized in the Unified Health System in May 2006, with the expansion of 14 other practices such as yoga and meditation in 2017⁽⁴²⁾.

Mindfulness meditation is also known for awareness, attention, focus, presence, or vigilance, and differs from others by relying on breath and body and being detached

from any religious aspect⁽⁴¹⁾, unlike raja yoga meditation, a science which teaches you how to attain the power of concentration, analyze the mind, build the spiritual world, and guides the individual to subtle perceptions. In raja yoga, breathing enters the individual into the psychic plane which leads to the spiritual world, and the practice is started from the inner world, the inner nature, so that it is possible to control everything, both internal and external aspects⁽⁴³⁾. The ultimate goal of raja yoga meditation is to control and direct the *prana*, the vital energy that occurs when man concentrates his energies and masters the *prana* in his body⁽⁴³⁾.

The practice of meditation in the analyzed studies was in groups, and developed activities were similar in most studies.

There was time for welcoming participants in the group meditation, presentation of theoretical material, guidelines for home practice, delivery of informative material, CD disc or cassette tapes to guide home practice and a diary for recording⁽²⁰⁻⁴¹⁾, thus encouraging formal and informal practice.

Other studies have identified the use of healing images⁽⁴⁴⁾, 6-hour retreats⁽¹⁴⁻¹⁶⁾ and psychoeducation activities^(31,44-45). Despite adaptation in the format of the meditation programs in the analyzed studies, they remained similar to the traditional eight-meeting Kabbat-Zinn program⁽²⁰⁻⁴¹⁾. Other adaptations included the 2-day Intensive Program, Nature retreats, Mindfulness Workshops and lectures^(25,30).

The follow-up time in the analyzed studies was 4, 12 and 24 months⁽²¹⁾, 6 and 12 months⁽³¹⁾, 2 and 5 months⁽¹⁹⁾, 2 months^(20,23,27,29-32,35-36,39), 6 weeks^(25,30,33,37) and 18 hours⁽³⁸⁾. Some researchers have brought discussions about the relationship between meditation practice time and maintaining the desired effect^(20,23,26,29,32,34,36,38,41). The duration of the meditation sessions was 20 minutes to an hour, while the practice at home was from 5 to 20 minutes^(20-21,27,31-32,34,36).

Researchers have introduced relevant considerations regarding the follow-up time and the effect of the intervention. In a study conducted with a short follow-up, researchers were not convinced to state the effect of the intervention^(25,27,30,33,37-38). In another, no significant effect of meditation on depressive symptoms of women with breast cancer was identified, and the authors believed that the early assessment time may have compromised the expected outcome⁽²⁴⁾.

For randomization, some were computerized and randomly drawn into blocks of nine, 12 and 15⁽²⁰⁾, stratified and unblocked with a randomized 1:1 allocation ratio with blinding^(20,30), and random draw into blocks of four to six with blinding⁽²¹⁾, 4:3 allocation⁽²⁵⁾, computerized randomization, 1:1 allocation^(27,31,38), 2:2:1^(24,39), by disease stage (0, I, II, III, IV), age of participants, type of treatment and health institution^(21,29,32-33,37-38), by selecting potentially eligible participants by telephone contact⁽²⁶⁾ or self-selection for MBSR or non-MBSR group⁽²⁸⁾ and recruited from hospitals, community organizations using distribution of posters, pamphlets and e-mail^(34,40-41).

There was a variety regarding the methods used by researchers to perform randomization. The importance of implementing the research with methodological rigor is emphasized in order to avoid limitations in the study and the interference of biases in the research results, which may imply uncertainties regarding the research outcome. It was observed that the participants in one of the groups were interested in participating in the experimental group, which prevented the formation of the control group⁽²⁶⁾; an aspect that compromises the strength of the study and the significance of the results.

Meditation was conducted by a physician and psychologist^(22-23,26,28,30,37), and a psychiatrist⁽²¹⁾, all with experience and training in the MBSR program, as well as certified instructors^(20,38-39) and a researcher qualified as a Full Mindfulness Program instructor at the University of Massachusetts⁽³²⁾. It is noteworthy that such care has the purpose of evading any disruption or damage that may arise

from the practice conducted improperly or even by inexperienced professionals. Given this, the need and importance of training nurses in meditation programs for stress reduction is emphasized, as they can improve the psychological state and quality of life of individuals⁽¹⁵⁻¹⁶⁾.

It is known that any intervention conducted by inexperienced professionals or those without proper training can have implications on an individual's life. In a study conducted with a yoga program combined with meditation, women complained of hip pain; however, when evaluated, the complaints were observed in women in the usual care group, i.e. those who did not participate in the intervention, such as sciatica, portocath, elbow, and knee pain, as well as panic attacks; complaints which may have been associated with the disease or treatment rather than intervention⁽⁴⁴⁻⁴⁵⁾. Thus, the importance of experienced professionals with the ability to recognize symptoms or complaints that may or may not come from the intervention is emphasized⁽⁴³⁻⁴⁵⁾.

Meditation was used in the analyzed studies to evaluate the effect on the improvement of stress level^(20-22,24-29,32,36,41) and other aspects of women's lives^(25-26,28,30,33-34,37,40). A significant effect was identified in reducing the stress level^(22-31,34-37), depressive symptoms^(21,23,29,32,34,37), anxiety^(21,23,32,35,37), quality of life^(21,26,30,35), fatigue^(21-22,30-31), sleep quality^(23,25,31,33), coping ability^(20-21,29) and fear of recurrence^(30,35,37). The findings are consistent with what many scholars have argued regarding the numerous benefits of meditation in one's life⁽⁴⁰⁻⁴³⁾.

The vast benefits of meditation have been found in studies such as improving pain, insomnia and constipation⁽³⁴⁾, emotional well-being, overall health, fear of recurrence and distress⁽³⁵⁾, improved vitality and functional capacity, mindfulness, spirituality, religiosity, satisfaction with life and health⁽³⁷⁻³⁸⁾, in interpreting the disease as something of value and not as punishment, and in the greater confidence of medical help^(35,38,41). In other studies, meditation has helped women develop natural mechanisms to cope with the disease process, with less trauma and suffering⁽¹²⁾. It is noticed that individuals in the oncology routine who can keep positive thoughts and feelings seem to be more successful in treatment, especially when they accept the disease process, making it less painful.

Increased self-worth, self-esteem, and mindfulness, decreased rumination, fatigue, depressive symptoms, and stress were noted among young breast cancer survivors who participated in a meditation program^(15,24), and those who performed relaxation techniques with music and meditation showed improvement in spirituality, happiness and optimism⁽²⁴⁾; those who practiced yoga and meditation showed persistent fatigue reduction and depressive symptoms⁽⁴⁵⁾. Thus, it can be stated that complementary therapies have helped to improve the psychological adaptation and stress control resources of women with breast cancer⁽²⁴⁾.

It is known that there are many emotional issues due to concerns regarding the necessary tests to diagnose the disease. Thus, a study conducted with women during breast biopsy using guided meditation and images found a reduction in anxiety, pain and fatigue⁽⁴³⁻⁴⁴⁾. Scholars also highlight the beneficial effects of meditation on improving

cancer patient survival^(1,3,10), on women's quality of life^(9,12,15), as well as on menopausal symptoms, fatigue and stress⁽⁴⁴⁾. Meditation also helped in self-worth, which played a key role in reducing suffering among younger survivors who participated in the study⁽⁴⁵⁾.

A reduction in stress level was confirmed by reducing cortisol in saliva or blood at three different times of the day^(6,8,13-14). However, in one study, no association of cortisol was identified with stress⁽⁵⁾. The word stress in oncology has been replaced by the term "distress", a specific term for individuals who are diagnosed with cancer⁽⁹⁾. Distress is defined as an unpleasant psychological multifactorial emotional experience (cognitive, behavioral, emotional, social and/or spiritual) which can interfere with the ability to cope with the disease⁽⁴¹⁾, involving feelings of vulnerability such as sadness and fear, and consequently depression, anxiety, panic syndrome, social isolation and existential crisis^(9,43).

Despite the benefits of meditation, it is noteworthy that emotion regulation strategies are still poorly studied and should be evaluated in other populations⁽¹⁵⁾. Likewise, there is a need for more consistent studies that prove the effect, efficacy, effectiveness and cost of meditation programs^(32,44-45), and longitudinal studies to investigate whether positive results remain constant, increase or decrease over time^(1,3,5,7), as well as controlled studies in the field^(20,23).

Researchers argue that meditation is a viable, safe, effective, low-cost intervention that is easily incorporated into clinical practice^(24,43-45) and should be implemented by nurses

during the stressful time when cancer treatment is formalized, as well as in resuming activities and lifestyle in order to improve psychological status and quality of life⁽¹⁵⁾.

Limitations of the analyzed studies were related to recruitment, based on breast cancer diagnosis, bias which may have compromised results⁽¹⁹⁾, absence of randomized distribution⁽⁶⁻⁷⁾, relatively high dropout rates, lack of follow-up in the long term of the groups^(8,15), lack of cost-effectiveness evaluation, delimitation of women with stage 0 to III breast cancer, and lack of a control group⁽¹⁵⁾. The use of a waiting list control group⁽³⁾ and the need for randomization compromised study results⁽⁶⁻⁷⁾.

This study aimed to describe the effect of meditation on the stress level of women with breast cancer, however despite the reasonable sample, it is not possible to generalize the results, as they only show the international reality, in addition to the variety of meditation types, different variables evaluated in the same study, and the various assessment instruments. Defining the disease status or age of the women also compromises generalizing the results.

CONCLUSION

A positive effect of meditation was identified based on the analyzed studies in reducing the psychological stress of women with breast cancer, as well as depression, anxiety, fatigue, insomnia, fear of recurrence and rumination, representing a strategy for coping with the disease and for improving the quality of life.

RESUMO

Objetivo: Avaliar o efeito da meditação no nível de estresse psicológico de mulheres com neoplasia mamária. **Método:** Revisão sistemática da literatura, realizada nas bases de dados LILACS, PubMed, Scopus, CINAHL e Web of Science. **Resultados:** A amostra foi composta de 22 estudos que empregaram as técnicas *Mindfulness*, Meditação Transcendental, Meditação Contemplativa de autocura. Verificou-se efeito significativo da meditação na redução do nível de estresse, nos sintomas de estresse pós-traumático, autorrelato de estresse e estresse crônico. Em alguns estudos, o efeito esteve associado à redução do cortisol e ao aumento da telomerase. **Conclusão:** A meditação apresentou efeitos positivos na redução de sintomas físicos e emocionais, como o estresse psicológico, depressão, ansiedade, fadiga, medo de recorrência e ruminação, representando estratégia eficiente para enfrentamento da doença e melhoria da qualidade de vida.

DESCRITORES

Neoplasias da Mama; Estresse Psicológicos; Terapias Complementares; Meditação; Enfermagem Oncológica; Revisão.

RESUMEN

Objetivo: Evaluar el efecto de la meditación en el nivel de estrés psicológico de mujeres con neoplasia mamaria. **Método:** Revisión sistemática de la literatura, realizada en las bases de datos LILACS, PubMed, Scopus, CINAHL y Web of Science. **Resultados:** La muestra estuvo compuesta de 22 estudios que emplearon las técnicas *Mindfulness*, Meditación Transcendental, Meditación Contemplativa de autocuración. Se verificó efecto significativo de la meditación en la reducción del nivel de estrés, los síntomas de estrés postraumático, autorrelato de estrés y estrés crónico. En algunos estudios, el efecto estuvo asociado con la reducción del cortisol y el aumento de la telomerasa. **Conclusión:** La meditación presentó efectos positivos en la reducción de síntomas físicos y emotivos, como el estrés psicológico, depresión, ansiedad, fatiga, miedo de recidiva y rumiación, representando estrategia eficiente para enfrentamiento de la enfermedad y mejoría de la calidad de vida.

DESCRIPTORES

Neoplasias de la Mama; Estrés Psicológico; Terapias Complementarias; Meditación; Enfermería Oncológica; Revisión.

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