# MASSAGE FOR BREAST CANCER SURVIVORS: presenting evidence and identifying opportunities

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## INTRODUCTION

The literature highlights many advantages in the use of Massage Therapy (MT) by breast cancer patients, suggesting its value in long-Treatment-Related Symptoms (TRS) management. Although MT has been shown to provide positive results in managing TRS, the studies conducted so far present a considerable number of gaps and are primarily focused on cancer population in treatment with less focus on survivors' population. 1-3

#### **OBJECTIVE**

The objectives of this study are to present evidence on MT as a TRS reduction strategy and its immune response-stimulating effects in breast cancer survivors, as well as to present the current gaps and limitations of research in this arena.

#### **METHODS**

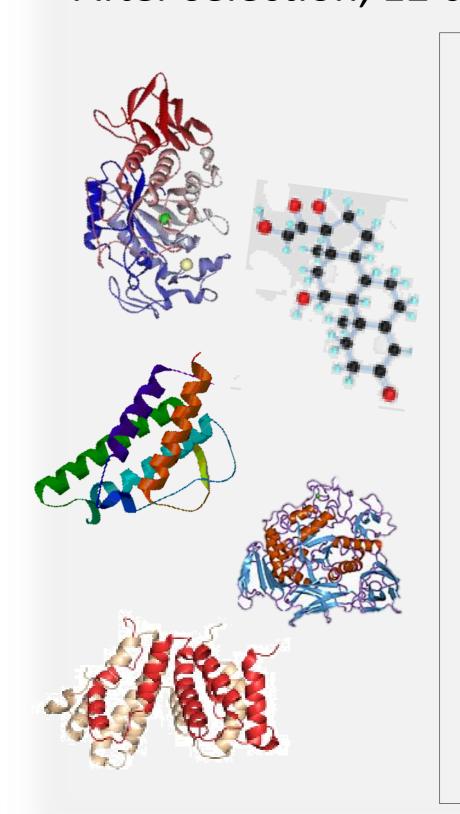
Design: A literature review was undertaken using the Evidence-Based Practice approach and the Psychoneuroimmunology model the theoretical frameworks (Figure 1).

Databases: Databases: LILACS, EMBASE, CINAHL, PubMed and the Cochrane Library.

Criteria: Inclusion criteria were full-text articles available in English, Spanish or Portuguese and published in the last 20 years (1981-2016).

#### RESULTS

After selection, 12 clinical trials were retained for critical appraisal on methodological quality.



## **Biological effects of Massage Therapy:**

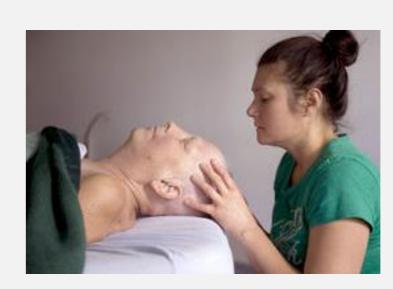
- Iga Levels <sup>3,4</sup>
- Alpha-amylase <sup>3,4, 5</sup>
- Salivary Cortisol<sup>3,4,6,</sup>
- Salivary Flow Rate 7,
- Serum Cortisol <sup>8</sup>,
- NK Cells <sup>7, 5</sup>
- Lymphocytes <sup>7, 2, 9,</sup>
- Urinary Catecholamines <sup>2, 6,</sup>
- Th1 Molecules (IL-1, IFN- Γ) <sup>9,</sup>
- Th2 (IL-4, IL-10) <sup>9,</sup>
- Peripheral Blood Mononuclear Cell <sup>10</sup>,
- Hemodynamic Effects <sup>1</sup>

system

Dopamine and Serotonin <sup>2,8</sup>

## Most tested protocols include:

- Aromatherapy massage <sup>11</sup>,
- Effleurage massage <sup>12, 13</sup>
- Light pressure effleurage massage 5,
  - Scalp massage <sup>9</sup> Reflexology
- Lymphatic drainage therapy <sup>14</sup>.
  - Massage combined with trigger point therapy and acupressure techniques 15
  - Meditation and massage 16
  - Massage and exercise <sup>16</sup>





## Although we do have some evidence to support the use of MT, limitations of previous studies include:

**Specificity**: there is a lacking of understanding on: (i) to whom and in what context each MT works (in which dose, for which phase of disease, in association with which type of conventional treatment and for how often), (ii) when they should be used (before, during or after a conventional treatment), (iii) and for how long (duration).

#### **CANCER-RELATED** TREATMENT EFFECTS

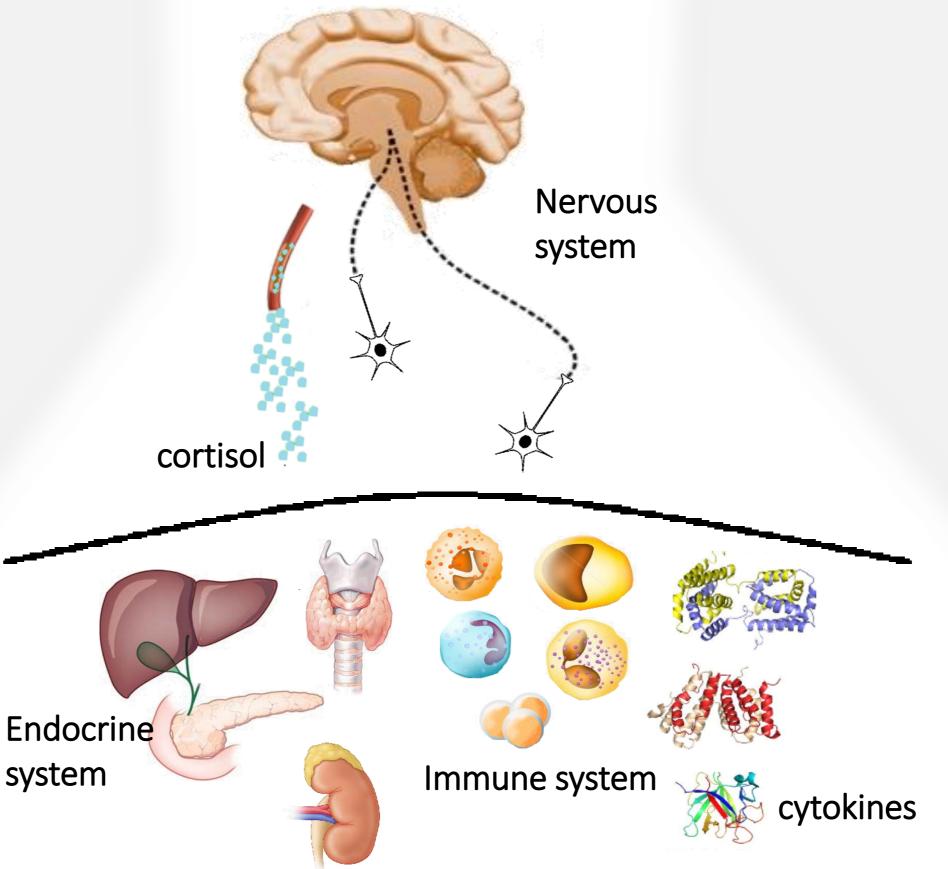


Figure 1. Psychoneuroimmunology model illustration.

# Focus on survivor population:

preliminary evidence is not specifically focused on breast cancer survivors.

> **Biological effects:** The few studies that have explored the biological effects of MT have not addressed the circadian rhythm of the biological markers investigated. 4-12

## CONLCUSION

Overall, MT showed positive impact on stress levels, low back pain, muscle pain, sleep, blood pressure, heart rate, inflammatory markers and mood improvement cancer population.

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