



## REVIEW ARTICLE

**Physiotherapy in the prevention and treatment of upper limb complications in women with breast cancer***Fisioterapia na prevenção e tratamento das complicações do membro superior em mulheres com câncer de mama*Taynara Louisi Pilger\* , Anna Julia Matheus Ortolani , Francisco José Candido dos Reis 

Department of Gynecology and Obstetrics, Ribeirão Preto Medical School, University of São Paulo. Ribeirão Preto, São Paulo, Brazil.

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**KEYWORDS**Breast cancer  
Physiotherapy  
Prevention  
Rehabilitation**ABSTRACT**

Breast cancer is the one that most affects the female population in Brazil and the world. Upper limb complications are common after cancer treatment, including conservative procedures. Old studies have already shown the effectiveness of physiotherapy in the rehabilitation of these complications. However, currently, physiotherapeutic care must be initiated from the diagnosis of the disease. Pre-rehabilitation prepares the patient to receive cancer treatment and promotes a reduction in rehabilitation time. Rehabilitation decreased the axillary cord by 57%, increased the range of motion (ROM) by 45° for flexion and 70° for shoulder abduction, the incidence of lymphedema was 11%, and there was a decrease of 3.4 points concerning pain on the Visual Scale Analog (EVA). The physical therapist should work with breast cancer to diagnose, prevent, and rehabilitate after cancer treatment, promoting functionality and quality of life for patients with breast cancer.

**PALAVRAS-CHAVE**Câncer de mama  
Fisioterapia  
Prevenção  
Reabilitação**RESUMO**

O câncer de mama é o que mais acomete a população feminina no Brasil e no mundo. Complicações do membro superior são comuns após o tratamento oncológico, inclusive em procedimentos conservadores. Estudos antigos já mostravam a eficácia da fisioterapia na reabilitação dessas complicações, contudo, atualmente a atenção fisioterapêutica deve ser iniciada a partir do diagnóstico da doença. A pré-reabilitação prepara a paciente para receber o tratamento oncológico e promove diminuição do tempo de reabilitação. A reabilitação diminuiu o cordão axilar em 57%, aumentou a amplitude de movimento (ADM) em 45° para flexão e 70° para abdução de ombro, a incidência de linfedema é de 11% e há diminuição de 3.4 pontos em relação a dor na Escala Visual Analógica (EVA). O fisioterapeuta deve atuar no câncer de mama no diagnóstico, prevenção e reabilitação pós-tratamento oncológico, promovendo funcionalidade e qualidade de vida para as pacientes com câncer de mama.

\*Corresponding author:

Departamento de Ginecologia e Obstetrícia da Faculdade de Medicina de Ribeirão Preto  
Addr.: Av. Bandeirantes, 3900 - 8º andar - HCRP, Campus Universitário. Ribeirão Preto, SP, Brasil | CEP: 14.049-900  
Phone: +55 (16) 3602-2583 - Fax: (16) 3602-2415 E-mail: [taynara.pilger@usp.br](mailto:taynara.pilger@usp.br) (Pilger TL)

This study was conducted at Ribeirão Preto Medical School, University of São Paulo - FMRP/USP.

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## INTRODUCTION

Breast cancer is the type of cancer that mainly affects the female population in Brazil and the world. Sixty-six thousand two hundred and eighty new cases are expected annually in Brazil between 2020 and 2022<sup>1</sup>. The global prevalence estimates for 2020 was 1,835,883 cases, representing 45.5 cases per 100,000 women<sup>2</sup>.

Early detection and systemic treatment reduced breast cancer mortality by 25% at the end of the 20th century in the United States and the United Kingdom<sup>3</sup>. The current therapy for breast cancer involves locoregional and systemic treatment. The locoregional treatment consists of breast surgery, axillary surgery, and radiotherapy, while the systemic treatment includes chemotherapy, hormone therapy, and targeted therapy.

The different treatment modalities for breast cancer can lead to comorbidities in the ipsilateral upper limb. Lymphedema, pain, and sensory and motor disorders are common even in conservative surgical procedures<sup>4</sup>. The prevention and treatment of these complications are essential for the quality of life of surviving patients. Anamnesis and physical therapy assessment are essential for a rehabilitation plan. However, physiotherapy in this area is still neglected and requires greater attention to insert physiotherapeutic interventions in prevention and rehabilitation.

This article discusses the physiotherapeutic performance in the care of women after breast cancer treatment, emphasizing the prevention and treatment of complications generated in the ipsilateral upper limb by cancer treatment.

## TYPES OF THERAPIES

Breast surgery, axillary surgery, and radiotherapy are the primary modalities for locoregional breast cancer treatment. The procedures performed during breast surgery can be radical or conservative. Mastectomy is a radical procedure where the mammary gland, areola, and even nipple can be removed. In addition to these structures, depending on the tumor extension, portions of the pectoralis major muscle may also be removed. In conservative procedures, lumpectomy is a technique in which the tumor is removed locally with only a safety margin, with a large part of the breast structures preserved<sup>5</sup>.

Axillary surgery is essential for evaluating axillary lymph nodes and can be conservative or radical. Axillary dissection is a technique that removes all axillary lymph nodes and other lymphatic structures<sup>6</sup>. Sentinel lymph node biopsy is considered a conservative procedure because it uses a dye that acts on a lymph node possibly affected by tumor cells. Some lymph nodes may be removed, most of which are preserved<sup>7</sup>. Radiotherapy is often used in addition to breast-conserving surgery, possibly after mastectomy in women with a high risk of local recurrence or for irradiation of lymphatic chains<sup>8</sup>.

Systemic treatment mainly comprises chemotherapy, hormone therapy, targeted therapy, and

bisphosphonates. This treatment modality stands out for preventing metastasis and controlling tumor progression. When choosing the best systemic treatment, particularities such as tumor type, tumor stage, and patient age should be considered. Systemic treatment can start before locoregional treatment, called neoadjuvant treatment, or after, called adjuvant treatment. This treatment is vital to reduce patient mortality, preventing the development of micrometastases<sup>9</sup>.

## TYPES OF COMPLICATIONS

Lymphedema, pain, sensory, and motor disorders are common in even the most conservative invasive treatments (Table 1). Lymphedema is an increase in arm volume caused by the abnormal accumulation of lymph. The pain can be considered acute or chronic for 6 months onwards, and the sensory disorders can be decreased sensitivity, burning sensation, tingling, and numbness. In the motor disorders, there may be adhesive capsulitis and axillary cord syndrome, which are also responsible for the decreased range of motion, strength and hand grip deficit in the upper limb ipsilateral to the affected breast<sup>10,11</sup>.

**Table 1** – Complications in the ipsilateral upper limb associated with breast cancer in women.

Complication	Incidence	Risk factors
<b>Lymphedema</b> <sup>13-16</sup>	5-50%	Staging Axillary dissection Chemotherapy Radiotherapy Mastectomy Obesity
<b>Pain</b> <sup>18,21</sup>	20-50%	Young patients Obesity Axillary dissection Radiotherapy Chemotherapy
<b>Sensory Disorders</b> <sup>*16,17,20</sup>	23-49%	Chemotherapy Radiotherapy Axillary dissection
<b>Motor disorders</b> <sup>**24,25,27,28</sup>	10-17%	Mastectomy Radiotherapy Axillary dissection

\*Numbness, \*\*Decreased shoulder abduction.

Invasive interventions cause more postoperative complications compared with conservative ones. However, even if reduced, these complications are present in less invasive cases<sup>4,12</sup>. Lymphedema is a chronic comorbidity that increases the arm circumference ipsilateral to the treated breast cancer. It can be caused by breast surgery due to manipulation, removal of structures, and injury to lymphatic vessels. Its prevalence can vary from 5% to 50% among patients<sup>13-16</sup>.

The main risk factors for developing lymphedema are related to the characteristics of the tumor: about 42.9% of cases are T2 tumor staging and 85.7% are invasive ductal carcinoma. Axillary dissection, chemotherapy, radiotherapy, and mastectomy are risk factors for developing lymphedema, as is obesity with a body mass index greater than or equal to 25 kg/m<sup>2</sup><sup>13,14,16,17</sup>.

Pain is a common complication in the arm ipsilateral to surgery and has a significant impact on patients' quality of life, being a clinically significant problem in approximately 20% to 50% of cases and persistent in the surgical area after surgical treatment of breast cancer<sup>18,19</sup>. Young patients are the ones who most report pain. Obesity, considering a body mass index > 26 kg/m<sup>2</sup>, is considered a risk factor for the emergence of this complication<sup>18,20</sup>. The chance of chronic pain for patients who underwent axillary dissection is 1.25 times greater than for women who did not. In patients who underwent chemotherapy, the chance is 1.44 times greater compared to patients exposed to radiotherapy<sup>21</sup>.

Hypoesthesia, tingling, and burning sensations can also affect patients, and the incidence of this type of complication can vary from 23% to 49%<sup>12,22-25</sup>. The incision performed in the surgery, both in the breast and in the armpit, can promote sensory changes such as numbness, burning sensation, proprioceptive changes, and decreased sensitivity. This happens due to possible partial or total nerve damage. An example is the intercostobrachial nerve, a structure very close to surgical manipulation. Axillary dissection is a procedure that can cause sensory disorders, and compared to sentinel lymph node biopsy, its damage is more significant. After radiotherapy, patients have decreased superficial sensitivity in the ipsilateral upper limb, indicating hypoesthesia compared to the site before the procedure. Chemotherapy can develop peripheral neuropathy due to its toxicity, altering sensory perceptions<sup>12,22,23,26</sup>.

The incidence of motor disorders is around 10% to 17% in women after cancer treatment<sup>24,25,27,28</sup>. Such disorders may include decreased range of motion for abduction, adduction, flexion, internal and external rotation of the ipsilateral shoulder joint, and deficits in arm strength and palm grip. Mastectomy, radiotherapy, and axillary dissection are the main risk factors for the appearance of these alterations. When performing mastectomy and axillary dissection, both procedures can remove structures such as muscle tissue, skin, and lymph nodes during the surgical process, generating motor changes<sup>24,25,27,28</sup>. Removing muscle structures can decrease the shoulder range of motion and a change in strength. In axillary surgery, manipulation of lymph nodes and their removal is also responsible for a deficit in the range of motion of the shoulder joint<sup>12</sup>.

Lymphedema, pain, and sensory and motor disorders occur mainly when patients undergo mastectomy and axillary dissection. Although more conservative methods exist, these procedures are still performed because the cancer treatment choice depends individually on each case. Radiation therapy is also a risk factor that may be present. Cellular alteration

involves the skin, fascia, ligaments, nerves, and muscles. Among the complications in the upper limb caused by breast cancer treatment, lymphedema and pain are the ones that most affect women, with an incidence of up to 50%. Sensory disorders are also not left behind, with up to 49% incidence. Motor disorders are comorbidities that, compared to those mentioned above, affect women less often but are still present.

## PHYSIOTHERAPEUTIC APPROACH

Anamnesis and physiotherapeutic assessment are essential for the kinetic-functional diagnosis of patients undergoing breast cancer treatment. Both can be performed soon after diagnosis. The histological knowledge of the tumor and the locoregional and systemic treatment plan help in the pre-rehabilitation approach, that is, the physiotherapeutic performance before starting the oncological treatment.

Pre-rehabilitation can be defined as "a process that occurs from the diagnosis of cancer, action before and during the beginning of cancer treatment including physical assessment, which will provide information directing interventions in care to improve the patient's health and reduce the incidence and severity of current and future disabilities"<sup>29</sup>. Pre-rehabilitation promotes physical preparation of muscle structures, with stretching and muscle strengthening, and cardiorespiratory conditioning, with aerobic exercises, preparing the patient for cancer treatment and reducing rehabilitation time 30. Pre-rehabilitation in surgery has a significant influence on performance and postoperative rehabilitation. Patients who are physically active before surgery have up to 85% greater chance of better postoperative recovery<sup>31</sup>.

Physiotherapy can be initiated in the immediate postoperative period, aiming to prevent comorbidities or their early treatment and the emergence of further complications. In an early rehabilitation with interventions such as lymphatic drainage of the chest, stretching exercises, and proprioceptive neuromuscular facilitation (PNF), the incidence of lymphedema is up to 7%, compared with 25% in the group of patients who did not perform it. After 12 months, the volume of the affected arm, compared to the contralateral arm, in patients who underwent early physical therapy is only 1.6% greater; in patients who did not, the difference between limbs is 5.1%<sup>32</sup>.

Physiotherapy guidance is also an intervention for rehabilitating women with breast cancer. Patient education regarding the comorbidities that may arise, what can or cannot be done, and theoretical knowledge about these dysfunctions directly influence the prevention and rehabilitation process. The occurrence of lymphedema in patients who received neither guidance nor physical therapy treatment is 18.6%. In patients who received only guidance, the rate decreased to 15%, and when physical therapy and guidance are combined, the occurrence of lymphedema is 7.7%<sup>33</sup>.

## ASSESSMENT TOOLS

The use of tools to assess lymphedema, pain, sensory disorders, and motor disorders provide quantitative and qualitative data that can also be used to compare information about the patients' evolution (Table 2). Lymphedema can be clinically evaluated using the Godet or Locker test (Figure 1)<sup>34</sup>. In both tests, pressure is placed on the tissue with the index finger or thumb. The assessment test classifies this complication into four grades. Grade I is when the depression caused by pressure disappears quickly; grade II, around 15 s; grade III, up to 1 min; and grade IV, between 2 and 5 min. Lymphoscintigraphy is a test that evaluates the functioning of lymphatic channels and lymph node chains. Manual perimetry using a measuring tape in centimeters can also be used to compare the homolateral limb after a certain period and compare it with the contralateral limb. Water displacement volumetry, also called water plethysmography, is a low-cost, fast, and non-invasive technique in which the volume of extravasated water is measured<sup>35</sup>.

**Table 2** – Assessment tools for comorbidities caused by cancer treatment.

Complication	Assessment tools and methods
<b>Lymphedema</b> <sup>34,35</sup>	Godet/Pitting edema test Lymphoscintigraphy Perimetry (cm) Volumetry by displacement
<b>Pain</b> <sup>36</sup>	Mc Gill Visual Analogue Scale
<b>Sensory Disorders</b> <sup>37</sup>	Cotton (surface sensitivity) Stesiometry (Semmes-Weinstein monofilaments)
<b>Motor disorders</b> <sup>38,39</sup>	Oxford test Palm grip test Goniometer

Pain is a prevalent complication in women undergoing cancer treatment. The assessment and measurement of this comorbidity consist of the use of questionnaires. The Mc Gill and Visual Analogue Scale (VAS) for pain are widely used tools, and their validity and reliability have been consolidated for years<sup>36</sup>. Mc Gill is a questionnaire that analyzes different dimensions of pain such as affective, sensitive, and discriminative and can be widely used in evaluating chronic pain. The VAS is a scale that allows the measurement of pain by the patient in categories from 0 to 10, with 0 being no pain and 10 being the worst possible pain.

It is necessary to pay attention to the type of sensitivity that will be evaluated for sensory disorders. In the oncological treatment of breast cancer, superficial sensitivity may be affected. Paresthesia can cause much discomfort in patients, but hypoesthesia is a comorbidity that can impair the protective reflex. The use of cotton for evaluating the surface sensitivity is an

option. Another alternative is to use the esthesiometer, a set of Semmes-Weinstein monofilament capable of evaluating the level of superficial skin sensitivity with monofilaments separated by grams. It is used to evaluate neuropathies and nerve injuries in general, both for cancer patients and leprosy<sup>37</sup>.



**Figure 1** – Positive pitting edema test on lymphedema in the upper limb in a patient with breast cancer.

In motor disorders, the primary assessment instrument is a goniometer. It is the ideal tool to assess all joint movements. It is a simple, low-cost instrument and widely used to assess other joints<sup>38</sup>. The strength assessment of isolated muscle groups can be performed manually following the Oxford Strength Grade Scale, which can be used to assess upper limb strength. The dynamometer, for instance, can be used to collect specific data on hand grip strength<sup>39</sup>.

## TREATMENT

For years, physical therapy has impacted the quality of life and functional well-being of patients with breast cancer<sup>40</sup>. Physical therapy rehabilitation is essential for patients undergoing treatment. Currently, when possible, conservative treatments are the main choice to alleviate complications in the upper limb ipsilateral to cancer treatment. However, there are still complications<sup>4</sup>.

The orientation and physiotherapeutic treatment in the postoperative period of breast cancer significantly improve the functionality of the affected upper limb. The axillary cord is a comorbidity that can occur in about 57% of patients due to the surgical treatment of breast cancer. When patients undergo rehabilitation for around 15 weeks, only 15% have an axillary cord<sup>41</sup>. Currently, many techniques and treatments have been improved



and focused on breast cancer care. A systematic review that included randomized clinical trials showed the effectiveness of resistance exercise in the upper limb, capable of improving the functionality and muscle mass of the ipsilateral limb. Furthermore, there was no association between resistance exercises and the development of lymphedema; in contrast, upper limb exercises are part of the tetrad used to treat lymphedema<sup>42,43</sup>.

Technical options for treating lymphedema, pain, sensory disorders, and motor disorders have developed over time (Table 3). Complex Physical Therapy is a tetrad composed of lymphatic drainage, myolymphokinetic exercises, arm compression, and skin care. These interventions are considered the gold standard for treating lymphedema. They act on the lymphatic system tracing a new route of fluid flow for a better return of the lymph to the lymphatic capillaries for greater pressure in relation to the interstitium<sup>43</sup>.

**Table 3** – Therapeutic techniques for comorbidities generated in cancer treatment.

Complication	Therapeutic technique
<b>Lymphedema</b> <sup>43</sup>	Lymphatic drainage Myolymphokinetic exercises Compression Skincare
<b>Pain</b> <sup>36,44,46,48</sup>	Kinesiotherapy Myofascial release Stretching Manual therapy
<b>Sensory Disorders</b> <sup>44,47,48</sup>	Kinesiotherapy Stretching Desensitization Stereognosis
<b>Motor disorders</b> <sup>44-46,48</sup>	Kinesiotherapy Myofascial release Manual therapy Stretching Proprioceptive neuromuscular facilitation

Using kinesiotherapy for strengthening, muscle stretching, and mobilization of upper limb joints reduces pain<sup>44</sup>. Myofascial release is a technique that acts directly on painful points that may arise because of surgical manipulation, muscle alteration, and tension. This technique promotes pain relief and muscle relaxation, contributing to a better range of motion in the shoulder<sup>45</sup>. Manual therapy techniques can help with pain relief by manipulating the joints. Also, therefore, they improve the shoulder range of motion for flexion, extension, abduction, adduction, internal rotation, and external rotation<sup>46</sup>.

Desensitization and stereognosis exercises are specific to the care of sensory disorders. Desensitization assists in the return of sensory normality, stimulating the tissue to various tactile sensations. In the case of stereognosis, specific exercises are proposed to promote

proprioception and tactile recognition<sup>47</sup>.

In motor disorders, most of the abovementioned techniques effectively improve upper limb strength and range of motion. Kinesiotherapy, myofascial release, manual therapy, and stretching can also improve motor disorders<sup>44-46</sup>. Proprioceptive neuromuscular facilitation is a technique that can be used to support neuroplasticity, ipsilateral upper limb functionality, strength, and muscle range of motion of the affected structures. It is a method that acts on nerves, tendons, and muscles. This practice is the interaction of stretching and muscle strengthening and generates a very effective result for the functionality of the limb<sup>48</sup>.

Physical exercise is a protective factor against breast cancer. Moderate to intense activity, 150 min per week, helps prevent the disease<sup>49</sup>. In addition to prevention after diagnosis and treatment of cancer, physical exercise influences the rehabilitation of patients. There is approximately a 50% reduction in mortality in active women soon after the diagnosis of breast cancer compared to sedentary women<sup>50</sup>. In a simulation performed in PREDICT, a tool that helps patients and physicians in the best choice of cancer treatment in early stages<sup>51</sup>, for example, a 59-year-old post-menopausal patient, estrogen receptor-positive, tumor size of 5 mm and one positive lymph node with the presence of micrometastasis, only surgery is performed, and the chance of overall survival is 87% in 10 years. The increase in breast cancer patients' survival increases the need for physical therapy, providing functionality and quality of life. In patients undergoing rehabilitation, there is a decrease of 3.4 points of pain in the ipsilateral upper limb according to the VAS scale. For patients who did not, pain decreased by only 0.5 point on the VAS scale. Other benefits are also seen in motor disorders, with an increase in ROM in flexion at 45° and shoulder abduction at 70°, and compared to a patient who did not undergo physical therapy, the increase in ROM for flexion was 11°, and shoulder abduction was 13°<sup>41</sup>.

There is a crucial difference between patients who underwent rehabilitation or not in lymphedema. The incidence of lymphedema is 11% in patients who receive physical therapy, compared with 30% in those who do not<sup>52</sup>. A patient who undergoes physical therapy has better results in the complications caused by breast cancer. The indices of pain, motor disorders, and lymphedema are lower than those who did not undergo any intervention. This directly influences the functionality, well-being, and quality of life of these women, preventing future complications that may occur over time due to untreated comorbidities.

## DISCUSSION

Cancer treatment is essential to eradicate the installed disease and prevent metastasis, increasing the number of surviving women. However, patients' quality of life can be significantly impaired when there is no treatment for comorbidities that may arise during and after primary care. In axillary surgery, both in axillary

dissection and in sentinel lymph node biopsy, removal of lymph nodes and dissection of lymphatic vessels are important factors in developing lymphedema<sup>16</sup>. The radiation generated by radiotherapy can also alter lymph drainage, causing changes in the lymphatic system.

Chemotherapy infusion into the limb homolateral to the tumor is also associated with the development of lymphedema, as are other drug treatments such as hormone therapy, targeted therapy, and bisphosphonates<sup>53</sup>. Staging is a factor that influences the development of lymphedema. Tumors from stage T2 onwards, with a size between 2 cm and 5 cm, and the type of tumor, such as invasive ductal carcinoma, can lead to the development of lymphedema<sup>16</sup>.

In locoregional treatment, tissue manipulation, both in breast and axillary surgery, can lead to pain. The site irradiated by radiotherapy can cause skin lesions, burns, and scars that can cause pain. Systemic treatment may lead to pain during treatment and cease as soon as it is completed, or pain may persist after this period<sup>54</sup>. Younger patients are the ones who most report pain after surgery; however, it is still unclear whether the cause is a change in the pain perception system, in the subjective expression of what pain is, or concerning the type of physical activity performed<sup>20</sup>.

The region where the incision occurs is very close to the nerves, such as the long thoracic and intercostobrachial, and resection may lead to sensory comorbidities<sup>22</sup>. The effect of chemotherapy can be toxic to the central nervous system, causing changes in the peripheral nervous system<sup>26</sup>. Changes in the peripheral nervous system can lead to peripheral neuropathies with altered proprioception and decreased nerve conduction from the periphery to the central region. The development of fibrosis, such as in adhesive capsulitis or the axillary network syndrome, affects shoulder movement in terms of extension, flexion, abduction, adduction, and internal and external rotation<sup>28</sup>. Both surgical and systemic treatments can cause sarcopenia. In surgical treatment, postoperative limb immobility and muscle resection are possible causes of loss of strength. Alternatively, systemic treatment causes toxicity in cells and is also a cause of sarcopenia<sup>55</sup>.

Preventive care is also part of the physical therapist's work and not just rehabilitation, that is, not only in the recovery of already installed comorbidities. The prevention of complications can be initiated from the diagnosis of breast cancer, acting in physical, muscular, and aerobic preparation before cancer treatment, aiming at reducing the presence of comorbidities and faster recovery for patients<sup>29,30</sup>. Immediate postoperative rehabilitation can also prevent the onset and worsening of comorbidities, directly influencing the quality of life<sup>32</sup>. The anamnesis and evaluation processes are essential for elaborating a treatment plan. Muscle, tissue, joint and nervous physiotherapeutic management promotes the prevention and rehabilitation of comorbidities. Rehabilitation significantly impacts the improvement of lymphedema, pain, and sensory and motor disorders.

The incidence of lymphedema in patients without physical therapy treatment is almost three times higher<sup>52</sup>.

The tools used to assess comorbidities generated by cancer treatment are safe and reliable. However, further investigation is needed as to which one is the best choice. No recorded data prove greater effectiveness between one tool and another in assessing the same complications. In the measurement and data collection process, there may be differences in the results. In lymphedema, for example, performing perimetry in centimeters using a tape measure requires demarcating the same place that will be measured from the beginning to the end of treatment, using the same tape measure and the same examiner so that there is no bias in the data collection.

In the physiotherapeutic field, attention to breast cancer has developed promisingly. The emergence of effective upper limb rehabilitation techniques for pain, lymphedema, and sensory and motor disorders has improved over time. However, they need more significant investments from the evaluation to the treatment plans. The heterogeneity of tools can be clinically positive because of the options for evaluating the same comorbidity. However, scientifically, heterogeneity becomes a problem when performing a meta-analysis. Finding the best assessment method for each type of comorbidity and developing new assessment tools are major consequences of a successful appraisal of post-treatment breast cancer patients<sup>56</sup>.

The physiotherapeutic prognosis is very promising when the intervention in breast cancer occurs from the beginning of the oncological diagnosis and treatment. Multidisciplinary care ensures care in all spheres of a patient with breast cancer. Health institutions have advocated and invested in a multidisciplinary team with different qualifications, expertise, and experiences toward the same objective. As a result, we have personalization from the beginning to the end of the treatment, with a set of professionals trained to work in different areas of health.

This multidisciplinary should be included in the oncological treatment of women with breast cancer. The presence of comorbidities in these women occurs in invasive and conservative procedures. Physiotherapy contains tools, methods, and therapeutic techniques that assess and treat these comorbidities. Therefore, including a physical therapist in the care of women with breast cancer is crucial. Guidance from other health professionals to patients about rehabilitation is necessary.

## CONCLUSION

Physiotherapeutic action in breast cancer starts from the diagnosis of the disease. Rehabilitation of upper limb complications caused by breast cancer treatment is essential for functionality and quality of life.

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