

Physiotherapeutic Follow-up after Surgery for Breast Cancer Treatment by Telehealth: Patients' Perception and Adherence

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Acompanhamento Fisioterapêutico após Tratamento Cirúrgico do Câncer de Mama por Teleconsulta: Percepção e Adesão das Pacientes

Seguimiento Fisioterapêutico Posquirúrgico para el Tratamiento del Cáncer de Mama por Teleconsulta: Percepción y Adherencia de las Pacientes

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ABSTRACT

Introduction: The physiotherapy service at the Cancer Hospital III of the National Cancer Institute (HCIII/INCA) has included telehealth in its care activities for monitoring patients undergoing surgical treatment for breast cancer during the pandemic. **Objective:** To evaluate the perception of patients about telehealth at HCIII/INCA, in addition to understanding and adherence to home physiotherapeutic guidelines in the postoperative breast cancer period. **Method:** Observational, qualitative and quantitative approach study, which included patients who received surgical treatment for breast cancer from March to May 2020 and attended physiotherapy telehealth. A semi-structured questionnaire with an open question about telehealth was utilized. **Results:** 129 women were included, 81.4% reported comfort with telehealth, 72.1% felt very safe and 71.3% felt satisfied with this type of service. Regarding physiotherapeutic guidelines provided, 89.1% of the patients claimed they understood the content, 66.7% followed them completely and 63.6% performed daily upper limb exercises. In relation to the quality, the patients reported that telehealth was necessary, valid and important to avoid exposure to the virus during the pandemic, in addition to being cost-effective, time-saving and avoiding trips to the institution. **Conclusion:** The modality of telehealth as evaluated by physiotherapy after breast cancer surgery generated a feeling of security, comfort and satisfaction, with good understanding and adherence to the guidelines and practice of home exercises.

Key words: remote consultation; pandemics/COVID-19; breast neoplasms; physical therapy modalities.

RESUMO

Introdução: O serviço de fisioterapia do Hospital do Câncer III do Instituto Nacional de Câncer (HCIII/INCA) inseriu as teleconsultas em suas atividades assistenciais para o acompanhamento das pacientes submetidas ao tratamento cirúrgico do câncer de mama durante a pandemia. **Objetivo:** Avaliar a percepção das pacientes quanto aos atendimentos por teleconsulta no HCIII/INCA, além da compreensão e da adesão quanto às orientações fisioterapêuticas domiciliares no pós-operatório de câncer de mama. **Método:** Estudo observacional, de abordagem qualitativa e quantitativa, no qual foram incluídas pacientes submetidas ao tratamento cirúrgico do câncer de mama, de março a maio de 2020, que realizaram teleconsultas com a fisioterapia. Foi utilizado um questionário com perguntas semiestruturadas e uma pergunta aberta sobre teleconsulta. **Resultados:** Foram incluídas 129 mulheres, 81,4% referiram conforto com as teleconsultas, 72,1% sentiram-se muito seguras e 71,3% sentiram-se satisfeitas com esse tipo de atendimento. Quanto às orientações fisioterapêuticas fornecidas, 89,1% das pacientes relataram que as entenderam e 66,7% que as seguiram totalmente; 63,6% realizaram os exercícios de membros superiores diariamente. Quanto à questão qualitativa, as pacientes relataram que a teleconsulta foi necessária, válida e importante por evitar a exposição ao vírus no período da pandemia, além de evitar os deslocamentos até a instituição, a economia de tempo e de dinheiro. **Conclusão:** A modalidade de teleconsulta nas avaliações da fisioterapia pós-cirurgia do câncer de mama geraram percepções de segurança, conforto e satisfação, tendo boa compreensão e adesão tanto das orientações fornecidas quanto da prática de exercícios domiciliares.

Palavras-chave: consulta remota; pandemias/COVID-19; neoplasias da mama; modalidades de fisioterapia.

RESUMEN

Introducción: El servicio de fisioterapia del Hospital Oncológico III del Instituto Nacional del Cáncer (HCIII/INCA) ha incluido la teleconsulta en su actividad asistencial para el seguimiento de las pacientes sometidas a tratamiento quirúrgico por cáncer de mama durante la pandemia. **Objetivo:** Evaluar la percepción de las pacientes sobre la teleconsulta en el HCIII/INCA, además de su comprensión y adherencia a las pautas de fisioterapia domiciliaria en el posoperatorio de cáncer de mama. **Método:** Estudio observacional, con abordaje cualitativa y cuantitativa, que incluyó pacientes que se sometieron a tratamiento quirúrgico por cáncer de mama, de marzo a mayo de 2020, a quienes se les realizó teleconsultas con fisioterapia. Se utilizó un cuestionario con preguntas semiestruturadas y una pregunta abierta sobre teleconsulta. **Resultados:** Se incluyeron 129 mujeres, el 81,4% refirió comodidad con las teleconsultas, el 72,1% se sintió muy segura y el 71,3% se sintió satisfecha con este tipo de atención. En cuanto a las pautas fisioterapêuticas brindadas, el 89,1% de las pacientes reportó que las entendían y el 66,7% que las seguía completamente; el 63,6% realizaba ejercicios de miembros superiores diariamente. En cuanto a la pregunta cualitativa, las pacientes relataron que la teleconsulta fue necesaria, válida e importante para evitar la exposición al virus durante el período de pandemia, además de evitar desplazamientos a la institución, ahorrando tiempo y dinero. **Conclusión:** La modalidad de teleconsulta en las evaluaciones de fisioterapia después de la cirugía de cáncer de mama generó percepciones de seguridad, comodidad y satisfacción, con buena comprensión y adherencia tanto a las orientaciones brindadas como a la práctica de ejercicios domiciliares.

Palabras clave: consulta remota; pandemias/COVID-19; neoplasias de la mama; modalidades de fisioterapia.

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INTRODUCTION

To reduce the number of cases and prevent the collapse of health systems, world governments determined social isolation rules due to the COVID-19 pandemic with impacts on health care. In this context, the treatments of cancer patients were discontinued or postponed¹.

Breast cancer is the most incident in Brazilian women², post-surgery complications can include pain, intercostobrachial nerve (ICBN) neuralgia pathway, reduction of the upper limb range of motion, winged scapula, and axillary web syndrome lymphedema among others^{3,4}. Thus, physiotherapy follow-up to prevent, early detection and treatment of these conditions is necessary⁵⁻⁷.

To continue the follow-up during the pandemic, new modalities of treatment have been approved. In March 2020, the “*Conselho Federal de Fisioterapia e Terapia Ocupacional (Coffito)*” issued Directive number 516⁸ which approved teleconsultation, telemonitoring and teleconsulting in line with the recommendations of the World Health Organization (WHO) to stimulate physiotherapy and occupational therapy to the population and ensure the well-being of health professionals and patients. Physiotherapy consultation is a synchronous (real-time) or asynchronous remote consultation the physiotherapist carries out⁸.

The physiotherapy service of “*Hospital do Câncer III*” of the National Cancer Institute (HCIII/INCA) included teleconsultations in their care activities to ensure the follow-up of patients submitted to breast cancer surgery. Teleconsultations were carried out through land lines or mobiles and, when necessary, with smartphones or tablets apps for video conference and collecting the same information usually obtained in traditional in-person consultations.

The objective of this article is to evaluate the patients’ perception of teleconsultations at HCIII/INCA, further to the comprehension and adherence to home physiotherapy guidelines following breast cancer surgery.

METHOD

Quali quantitative, observational study developed in the HCIII/INCA physiotherapy outpatient, with patients submitted to breast cancer surgery from March to May 2020 who attended 30-days, 6 months and/or one-year post-surgery teleconsultations for physiotherapy follow up. Patients with cognitive deficit unable to respond to the questionnaire were excluded.

One year after the teleconsultations were held, the patients were contacted by telephone pursuant to the study objectives.

Sociodemographic, clinical, treatment data and post-operative complications from the patients’ charts were collected for the quantitative analysis. Data on perception, (acceptance and opinion) of teleconsultations, understanding and adherence to physiotherapy guidelines were obtained from interviews through a semi-structured questionnaire with questions that attempted to comprehend this experience (Chart 1).

Descriptive analysis with mean and standard deviation (SD) were utilized for continuous variables and for categorical data, relative (%) and absolute (n) frequencies with the software SPSS 20.0⁹.

The following open question was applied for quantitative evaluation: “What is your opinion about physiotherapy consultations carried out by telephone/video during the pandemic?” The responses were audiotaped through the applicative call.center CubeACR©¹⁰

Chart 1. Questionnaire about perception of teleconsultations, understanding and adherence to physiotherapy guidelines

Were you satisfied with video or telephone physiotherapy consultations?

Did you feel safe with this type of evaluation?
 Barely More or less Very Don't know

Did this type of consultation meet you expectations?
 Barely More or less Very Don't know

Have the physiotherapist's guidelines been well understood?
 No Yes, partially Yes, completely Don't know

Have you followed the physiotherapist's guidelines?
 No Partially Yes Don't know

Have you followed the home exercises guidelines for UL?
 No Occasionally Daily

What is your opinion about teleconsultation compared with in-person consultation?
 Worse Similar Better Don't know

Was teleconsultation necessary during the pandemic?
 No Yes Don't know

Should teleconsultation continue after the pandemic?
 No Yes Don't know

Caption: UL = upper limbs.

and fully transcribed. The sample was defined by the principle of theoretical saturation and interrupted when the interviewer concluded the required information was obtained¹¹. Bardin¹² content analysis technique was utilized.

The Institutional Review Board (IRB) of INCA approved the study, report number 4,702,209 (CAAE (submission for ethical review) 45004621.0.0000.5274), in compliance with the guidelines of Directive 466/2012 of the National Health Council.

RESULTS

Between March and May 2020, 217 patients were submitted to breast cancer surgical treatment and referred for physiotherapy follow up by teleconsultation. After one year, 82 patients did not answer the telephone calls, five died, one was unable to respond due to cognitive deficit and 129 accepted to join the study.

129 women who attended post-surgery teleconsultations for physiotherapy follow up were enrolled (median). The mean age of the patients was 56.82 (± 12.27) years. Most of them claimed they were non-White (54.3%), completed more than eight years of education (64.3%), did not live with spouse (55%), were housewives (67.4%) and lived in the city of Rio de Janeiro (55.0%). The majority did not smoke (65.9%), did not drink (62.0%) and did not practice physical activity (62.0%) (Table 1).

79.0% of them were overweight or obese and 54.3% were classified at initial staging (< IIB). Most of them (65.1%) were mastectomized, 51.2%, exclusive sentinel lymph node biopsy (SLNB), 10.9%, SLNB followed by axillary lymphadenectomy (AL) and 38%, AL. Only 10.9% of the study population submitted to breast reconstruction, but the majority underwent chemotherapy (72.1%), radiotherapy (71.4%), hormone therapy (85.3%) and only 13.3% received molecular target-therapy (Table 1).

The most frequent post-operation complications were ICBN neuralgia pathway (75.2%), pain (24.8%), heaviness of the upper limb (21.7%) and limitation of the range of motion (16.3%) (Table 2). Of all the patients evaluated by teleconsultation, 13 (10.1%) were referred to outpatient consultations because they reported some complication which required further in-person evaluation (lymphedema, restriction of ROM and chronic pain).

The majority claimed they felt very comfortable (81.4%), very safe (72.1%) and very satisfied (71.3%) with teleconsultations. When in-person and teleconsultation are compared, 49.6% reported they did not find differences among them and for 95.3% of the respondents, teleconsultation was necessary during the pandemic and 68.2% found the continuity of this modality valid (Table 3).

89.1% of the patients claimed they fully understood and adhered to the guidelines provided by the physiotherapist during the teleconsultation, 66.7%, followed the guidelines fully and 63.6% performed the exercises of the upper limbs daily (Table 4).

Of the 129 patients, 60 were enrolled in the qualitative study. Almost unanimously, they reported this modality was necessary, valid and very important to avoid exposure to the virus during the pandemic. In addition to the safety, other advantages mentioned were practicality, comfort because transportation to the hospital was avoided, in addition to time and cost effectiveness. Some of them believed that it could work as triage and only those who had any alteration would be referred to the hospital.

Some patients' narratives are presented below:

Positive points reported about teleconsultations

Post-operation during a pandemic? With risk of being infected by the virus? Great decision!

There are advantages. Why leave home and go there? Too far! I got tired and is not cheap!

I manage to get what I needed by telephone, did not waste time going to the hospital and coming back home. Others live much far away! The hospital is overburdened with many ill persons. Spare time of the professional ... kind of triage. If can't get what is needed by telephone, ok, I go to the hospital. Some persons need special attention.

Negative points reported about teleconsultations

I think that during the pandemic, it was necessary but does not substitute the in-person clinical visit. Evaluate, touch, be with the patient ... can't neglect this!

Nothing replaces the clinical evaluation, nothing! You see the doctor and he is able to talk to you, examine youNo, I don't think is the same thing.

DISCUSSION

This study evaluated the patients' acceptance and opinion about physiotherapeutic teleconsultation, in addition to understanding and adherence to the guidelines. This new modality facilitates postoperative follow-up at the patients' home, in addition to time and cost effectiveness, avoiding transportation to the hospital, mostly for those physically unable to attend in-person visits.

Table 1. Sociodemographic, clinic and treatment characteristics (n=129)

Variable	n (%)	Variables	n (%)
Age		Clinical staging*	
Mean (SD)	56.82 (12.27)	< IIB	70 (54.3)
Skin color		≥ IIB	54 (41.9)
White	59 (45.7)	Breast Surgery	
Non-White	70 (54.3)	Conserving	45 (34.9)
Marital status		Mastectomy	84 (65.1)
With spouse	58 (45.0)	Axillary approach	
Without spouse	71 (55.0)	SLNB	66 (51.2)
Education*		SLNB+AL	14 (10.9)
< 8 years	43 (33.3)	AL	49 (38.0)
≥ 8 years	83 (64.3)	Breast reconstruction	
Occupation*		No	115 (89.1)
Housewife	87 (67.4)	Yes	14 (10.9)
Other activities	38 (29.5)	Chemotherapy	
City		No	36 (27.9)
Rio de Janeiro	71 (55.0)	Neoadjuvant	45 (34.9)
Other State cities	58 (45.0)	Adjuvant	47 (36.4)
Alcohol use*		Palliative	1 (0.8)
No	80 (62.0)	Radiotherapy	
Ex-drinker	13 (10.1)	No	37 (28.7)
Yes	34 (26.4)	Neoadjuvant	2 (1.6)
Smoking		Adjuvant	90 (69.8)
No	85 (65.9)	Hormone therapy	
Ex-smoking	31 (24.0)	No	19 (14.7)
Yes	13 (10.1)	Neoadjuvant	4 (3.1)
Physical activity*		Adjuvant	105 (81.4)
No	80 (62.0)	Palliative	1 (0.8)
Yes	37 (28.7)	Target-therapy	
BMI		No	112 (86.8)
Low/satisfactory	27 (21.0)	Neoadjuvant	6 (4.7)
Overweight/obesity	102 (79.0)	Adjuvant	10 (7.8)
		Palliative	1 (0.8)

Captions: SD = standard deviation; BMI = body mass index; SLNB = sentinel lymph node biopsy; AL = axillary lymphadenectomy.
(*) Missing information impacted the total.

Most of the interviewees reported that teleconsultation was necessary, valid and important to avoid exposure to the virus during the pandemic, further to comfort and practicality. The majority reported safety, comfort and satisfaction but 30.2% affirmed that it was worse than in-person because physical contact allows better evaluation and 95.3% believed it was necessary during the pandemic.

A qualitative study by Lawford et al.¹⁴ evaluated the participants' perceptions about exercises therapy guided by physiotherapists on the telephone for patients with knee osteoarthritis, describing positive experiences with the phone calls and feeling of continuous patient-centered support. Some patients of the same study claimed they felt safe in practicing the exercises by phone, nevertheless, they still needed visual contact with the physiotherapist

by videoconference or in-person visit. The present study has also evaluated by video when necessary which may have contributed for the good acceptance, safety, comfort and satisfaction.

Lovo et al.¹⁵ investigated the patients' experience with chronic pain of the spine through the new modality of teleconsultation and revealed that most of them was satisfied (68.4%) and reliant (63.1%). Great part of the sample (79.1%) would recommend telehealth to other persons and 42.1% thought it was comparable to in-person consultations, corroborating the current findings, where 49.6% of the patients found similarities between both. The authors suggest that telemedicine is a promising model to be investigated in future studies and considered as a modality of consultation able to ensure better access to healthcare.

Table 2. Postoperative complications (n=129)

Variables	n (%)
Pain	
No	97 (75.2)
Yes	32 (24.8)
Change of sensitiveness of ICBN*	
No	27 (20.9)
Yes	97 (75.2)
Intercostobrachial neuralgia*	
No	122 (94.6)
Yes	4 (3.1)
Axillary web syndrome*	
No	100 (77.5)
Yes	11 (8.5)
Heaviness of the upper limb*	
No	99 (76.7)
Yes	28 (21.7)
Lymphedema*	
No	117 (90.7)
Yes	11 (8.5)
Range of motion restriction	
No	108 (83,7)
Yes	21 (16.3)

Caption: ICBN = intercostobrachial nerve.
 (*) Missing information impacted the total.

Some studies showed that in chronic conditions, teleconsultation and telemonitoring are instrumental in achieving benefits of patients' self-management, giving them guidelines of how and when it would be required to call the health professionals to evaluate their condition¹⁶⁻¹⁹. This scenario can be applicable to the population investigated herein because it is quite common in patients with breast cancer submitted to surgery.

Since 2010, the WHO²⁰ ensures that telemedicine has great potential to improve health services because it circumvents distance and time issues for health professionals and patients, specifically where access to health is difficult. According to WHO, there are evidences of important socioeconomic benefits for patients and families, however, the great challenge is to overcome human complexities and cultural factors that make some patients and health professionals resistant to other than traditional consultation models²¹.

Given the importance of physiotherapeutic evaluation of oncologic mastology, physical examination or another in-person consultation are deemed essential to confirm the diagnostic, for instance, lymphedema as Daniel and Sulmasy²¹ ratified in their study. But the pandemic restrictions gave rise to teleconsultation, a modality that was instrumental as a triage of patients referred for in-person visits, confirmed by the narrative of one of the

Table 3. Acceptance and opinion of the patients about teleconsultation (n=129)

Acceptance and opinion of patients about teleconsultation	n (%)
Comfort	
Barely	6 (4.7)
More or less	18 (14.0)
Very	105 (81.4)
Safety	
Barely	11 (8.5)
More or less	24 (18.6)
Very	93 (72.1)
Don't know	1 (0.8)
Satisfaction	
Barely	14 (10.9)
More or less	23 (17.8)
Very	92 (71.3)
Difference between teleconsultation and in-person consultation	
Worse	39 (30.2)
Similar	64 (49.6)
Better	10 (7.8)
Don't know	16 (12.4)
Necessary during the pandemic	
No	5 (3.9)
Yes	123 (95.3)
Don't know	1 (0.8)
Continuity of teleconsultation	
No	37 (28.7)
Yes	88 (68.2)
Don't know	4 (3.1)

Table 4. Understanding and adherence to guidelines provided during teleconsultations (n=129)

Guidelines	n (%)
Understanding	
No	1 (0.8)
Yes, partially	13 (10.1)
Yes, totally	115 (89.1)
Adherence	
No	2 (1.6)
Yes, partially	41 (31.8)
Yes, totally	86 (66.7)
Adherence to exercises prescribed	
No	3 (2.3)
Occasionally	44 (34.1)
Daily	82 (63.6)

interviewees. They have also affirmed the importance of carefulness as therapeutic element that, if unwarranted, could trigger the insecurity some interviewees' narratives have hinted.

Teleconsultations investigated in the present study shared the same objectives of in-person consultation: prevention or minimization of symptoms post breast

cancer surgery as upper limbs range of move restrictions, intercostobrachial neuralgia and/or paresthesia of the ICBN pathway, reduction of muscle strength and oncologic fatigue²². Baroni et al.²³, in 2023, affirmed that telerehabilitation is a safe and effective option to manage several musculoskeletal conditions.

The purpose of Kruse et al.²⁴ in their literature review was to analyze the efficacy of telehealth in breast cancer treatment and recovery and concluded that remote interventions were positive in at least one domain of physical, mental health, quality of life and sleep; in addition, the guidelines for physical practice helped the education and development of healthy habits associated with reduced risk of disease recurrence.

Loubani et al.²⁵, even with a small sample of women post primary treatment of breast cancer believed it was important to offer a remote rehabilitation program during the COVID-19 pandemic because it improved the adherence to the treatment, despite poor response of self-reported physical and emotional symptoms. The pandemic restrictions showed clearly this modality was viable and could be incorporated in the conventional care in certain setting, the authors affirmed, which could potentially justify changes in health policies.

Complementary in-person consultation was conducted for 10.1% of the study patients, in addition to the remote modality. Palm et al.²⁶ showed that the same patient may attend remote and in-person consultations, one does not exclude the other modality, on the contrary, they are complementary and are able to yield effective results, not only during a pandemic. The authors concluded that the remote modality reduced transportation costs and time, expanded the specialized consultation, favored the continuation of the intervention and helped to reduce health disparities.

This is one of the few studies where physiotherapeutic evaluation and follow-up by teleconsultation of patients diagnosed with breast cancer during COVID-19 pandemic occurred; the positive results helped the implementation in a public health service, leading to the optimization of post-surgery follow-up and cost reduction to the patients.

CONCLUSION

Teleconsultation in 30 days, six months and/or one year follow-up post breast cancer surgery brought up perceptions of safety, comfort and satisfaction to the patients. It was necessary during the pandemic and most of the women manifested that the continuation of this modality should be adopted, creating good understanding of the guidelines and adherence to the practice of exercises at home.

CONTRIBUTIONS

All the authors contributed substantially to the study design, acquisition, analysis and interpretation of the data, wording and critical review. They approved the final version to be published.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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