

Breast Cancer and Physical Activity: Perceptions during the COVID-19 Pandemic

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Câncer de Mama e Atividade Física: Percepções durante a Pandemia de Covid-19

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ABSTRACT

Introduction: The social isolation scenario of the COVID-19 pandemic is challenging for the physical and mental health of women in breast cancer treatment. **Objective:** To investigate the perception of the impacts of the practice of remote physical activity on the clinical and physical symptoms of women with breast cancer during the COVID-19 pandemic imposed social isolation. **Method:** Qualitative and exploratory study with 32 participants with breast cancer of a South public university extension program in Brazil. The interview script applied from April to May 2020 consisted of 30 open and closed questions, fully transcribed and analyzed based in the Discourse Analysis method. **Results:** Three aspects stood out in the analysis (*a priori* categories), considering the effect of the time, respectively: a) physical and clinical aspects; b) physical and clinical aspects before and during social isolation (level of physical activity, pain and general disposition); c) aspects related to physical activity practice carried out remotely (overall perceptions about adaptation to remote activities and difficulties while performing in home environment). **Conclusion:** The imposed social isolation due to the imminent danger of spread appears to have contributed for the aggravation of breast cancer clinical and physical symptoms, such as the perceived increase of lymphedema and pain in the homolateral limb of the surgery, mostly, in addition to causing a significant reduction of physical activity regular practice.

Key words: Exercise; Breast Neoplasms; Coronavirus Infections; Social Isolation.

RESUMO

Introdução: O cenário de isolamento social imposto pela pandemia da Covid-19 tem representado um desafio para a saúde física e mental de mulheres em tratamento do câncer de mama. **Objetivo:** Investigar a percepção dos impactos da prática da atividade física remota nos sintomas clínicos e físicos de mulheres com câncer de mama durante o isolamento social imposto pela pandemia da Covid-19. **Método:** Estudo qualitativo e exploratório com 32 participantes com câncer de mama de um programa de extensão de uma universidade pública do Sul do Brasil. O roteiro de entrevista, aplicado nos meses de abril e maio de 2020, foi composto por 30 questões abertas e fechadas, cujos dados foram transcritos na íntegra e analisados a partir da técnica de Análise de Discurso. **Resultados:** Três aspectos ganharam destaque na análise (categorias *a priori*), considerando-se o efeito do tempo, nomeadamente: a) aspectos pessoais e clínicos; b) aspectos físicos e clínicos antes e durante o isolamento social (nível de atividade física, dor e disposição geral); c) aspectos relacionados à prática de atividade física realizada de forma remota (percepções gerais acerca das adaptações às atividades remotas e dificuldades em realizar a prática no ambiente domiciliar). **Conclusão:** O isolamento social imposto pelo perigo iminente do contágio parece ter contribuído para o acirramento dos sintomas clínicos e físicos do câncer de mama, tais como o aumento percebido do linfedema e as dores, sobretudo no braço correspondente à cirurgia oncológica, além de refletir em uma diminuição significativa da prática regular de atividade física.

Palavras-chave: Exercício Físico; Neoplasias da Mama; Infecções por Coronavírus; Isolamento Social.

RESUMEN

Introducción: El escenario de aislamiento social impuesto por la pandemia Covid-19 ha sido un desafío para la salud física y mental de las mujeres en tratamiento por cáncer de mama. **Objetivo:** Investigar la percepción de los impactos de la práctica de actividad física a distancia sobre los síntomas clínicos y físicos de mujeres con cáncer de mama, durante el aislamiento social impuesto por la pandemia de Covid-19. **Método:** Estudio cualitativo y exploratorio con 32 participantes con cáncer de mama, de un programa de extensión en una universidad pública del Sur de Brasil. El guion de la entrevista, aplicado en los meses de abril y mayo de 2020, estuvo compuesto por 30 preguntas abiertas y cerradas, cuyos datos fueron transcritos íntegramente y analizados mediante la técnica de Análisis del Discurso. **Resultados:** En el análisis se destacaron tres aspectos (categorías *a priori*), considerando el efecto del tiempo, a saber: a) aspectos personales y clínicos; b) aspectos físicos y clínicos antes y durante el aislamiento social (nivel de actividad física, dolor y disposición general); c) aspectos relacionados con la práctica de actividad física realizada de forma remota (percepciones generales sobre adaptaciones a actividades remotas y dificultades para realizar práctica en el entorno del hogar). **Conclusión:** El aislamiento social que impone el inminente peligro de contagio parece haber contribuido al agravamiento de los síntomas clínicos y físicos del cáncer de mama, como la percepción de aumento de linfedema y dolor, especialmente en el brazo correspondiente a la cirugía oncológica, además de reflexionar sobre una disminución significativa de la actividad física regular.

Palabras clave: Ejercicio Físico; Neoplasias de la Mama; Infecciones por Coronavirus; Aislamiento Social.

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INTRODUCTION

On March 2020, the World Health Organization (WHO) declared the outbreak of the coronavirus disease 2019 – COVID-19 as a pandemic of the lethal and highly infectious novel coronavirus^{1,2}. During the pandemic all the countries adopted social distancing and restrictions strategies to reduce the virus spread and new methods of online or telemedicine consultation started to be adopted³.

The attempts to contain COVID-19 forced the countries to adhere to social isolation and distancing. Women diagnosed with breast cancer are considered a vulnerable population and have severe symptoms caused by COVID-19⁴. However, social distancing and interruption of the activities usually performed as physical exercise and/or physiotherapy can impact the global health of these women negatively. Part of the challenge in this moment is to continue to offer the required clinical care for health professionals and to this population safely.

Therefore, the current options are remote consultations because they are safe, creating strategies to support these women's³ health. The literature shows through meta-analysis that physical activity is essential for this population and can reduce breast cancer recurrence and minimize the risks of all causes of death the disease provokes⁵; in addition, the American Cancer Society recommends physical activity for cancer prevention⁶. In a moment where it is not possible to practice physical activity in-person, new strategies are required as, for instance, daily remote classes because it is unacceptable to not have physical activities. The objective of this study is to investigate the practice of remote physical activity and its implications during social isolation the COVID-19 pandemic imposed on women with breast cancer.

METHOD

The Institutional Review Board (CEPSH) of the State University of Santa Catarina (UDESC) approved the qualitative and exploratory health study⁷⁻¹⁰, number 3.985.052. All the procedures complied with the Declaration of Helsinki.

The participants of a public university extension program (Rhythm and Movement) of the Brazilian South region who met the inclusion criteria were assigned to the study: 18 years or older, clinical staging I to III of breast cancer and practicing physical activity remotely (online videos and lives) and information about physical activities through digital applicative and/or social network during social isolation due to the COVID-19 pandemic. The exclusion criteria were not practicing physical activities

remotely. Of the 32 participants of the program five were unable to join, four because they did not answer the call and one for being unable to complete the interview for personal reasons, reaching 22 participants (58.23±6.4 years) who were interviewed.

Qualitative semistructured^{8,11-13} and individual¹⁴ interview was the technique to collect the data. The interview script contained 30 open and closed questions subdivided in three blocks and their respective categories *a priori*: a) personal and clinical aspects (education, occupation, marital status, surgical aspects, relapse, adjuvant treatment of hormone therapy, previous chemotherapy and radiotherapy); b) physical aspects before and during social isolation (level of physical activity, pain and overall disposition); and c) aspects related to the practice of remote physical activity (overall perceptions about the adaptations to remote activities and difficulties in performing in home environment).

The categories mentioned allowed the grouping and organization of the ideas brought through the narratives which were interpreted with the technique of Discourse Analysis¹⁵. This analysis attempts to understand not only the word but the social-historical context and the time when the narrative occurred and its effects/production of feelings.

Two investigators of the “Laboratório de Pesquisa em Lazer e Atividade Física (LAPLAF/CNPq)” conducted the interviews through telephone calls with five attempts to be answered; if not responded in this time, it was called off.

The mean duration of the interviews was 25 minutes and the narratives collected during the phone calls were automatically recorded in a Call Record Player version 2.3.7. A third investigator (FS), a consultant of LAPLAF transcribed the interviews through the applicative Speechnotes – version 1.7.0, the data were collected in April and May 2020. When the narratives were transcribed, they were revised to comply with the Portuguese language orthography to facilitate the understanding and avoid embarrassments within ethical principles to preserve the original content of the speech.

RESULTS

The responses obtained with the interviews allowed to build up a summarized overview of the major physical and clinical adaptations the participants perceived *per se* from the practice of remote physical activity. Initially, three categories *a priori* were created, organizing the information that were searched: a) social and clinical aspects; b) physical and clinical aspects before and after social isolation; c) aspects related to the practice of remote physical activity. The knowledge of physical and clinical

conditions of the group of participants and its relationship with the current scenario of social isolation were the object of interest of this study and were gathered in the following subcategories *a posteriori*: level of physical activity and general disposition. Likewise, the understanding about the use of online physical activity related to these conditions in the aftermath of the pandemic allowed the organization of the following subcategories in sequence: general perceptions about the adaptation to remote activities and difficulties to practice in home environment. 20 women interviewed adhered to social isolation in their daily routines, only two of them continued to attend their jobs regularly.

In face of the COVID-19 imposed structural changes in their routines, the participants were stimulated to reflect and compare the perceptions of their physical health and physical activity routine in the periods pre and during the pandemic.

Among the 22 study participants, 41% completed high school, 73% worked, 50% had spouse, 86% had breast cancer, 64% did not submit to breast reconstruction, 54% were in hormone therapy adjuvant treatment, 86% underwent previous chemotherapy, 82%, previous radiotherapy and 100% adhered to social isolation.

Regarding the general disposition of the participants, social isolation may have interfered significantly in the feeling of tiredness to carry over the daily activities. In pre COVID-19 pandemic, according to the participants narratives, physical feelings of tiredness, apathy and lack of motivation were barely noticed. Since the diagnosis of breast cancer, three participants have mentioned specifically they felt tired daily in their routines and believed this condition was a side effect of the treatment with drugs they were submitted to.

Although the new routine has imposed to the dynamic practices a less accelerated rhythm, it is exactly in this time stalling moment that the perception of (im)potence permeated the participants' narratives. In other words, there is not a clear feeling of physical tiredness that the effort or activity provoked, but some discouragement the impossibility of exerting physical activities has caused. Some participants mentioned that, as a result, minor daily tasks are more physically demanding, which were easily performed formerly as taking a shower and drying the hair.

Apparently, social isolation favored the appearance of body pain. Many participants reported it was already a habit in their routines to live with physical pain in several parts of the body in the pre-pandemic period and these continued in the present moment, but some of them, more intense. Pain in the legs, bones, back, sciatic nerve and articulations in general were mentioned while pain in the arm homolateral to the breast surgery to remove the tumor

stood out among the pain perceived. Nine participants of the group mentioned the pain that the swelling of the arm (lymphedema) caused as the most persistent, disturbing and increasing during isolation. Some of them, as the Participant 21 associated the swelling to the fact of living in a scenario more emotionally tense:

I felt and still feel pain! Too much pain in the arms and shoulder [effect of the emotional tension] because every time I go to the doctor and complain, he says it is the tension, that I am very tense. I consulted the cardiologist this week, because he says my heart is accelerated [I've always been anxious, but] not as much as after when I was in isolation. Since the surgery and cancer treatment, I became scarier, I am very afraid, very! [...] I feel much pain in the two arms and back, I sleep, wake up, sleep and wake up and the pain is there! One day less, another day a little bit more and it goes on. Today, I don't feel too much pain, but some days, I did (Participant 21).

Within this same dimension, five participants associated the increase of pain perceived in the arm to the sudden reduction of body movement the isolation has imposed as a new routine. The fact of staying home away from work or social relations, with restricted activities or the body not submitted to major efforts as the narratives revealed appear as core elements for the appearance of pains and increasing arm swelling:

[Now] we don't move much and when we do, there is less liquid accumulating in the arm! Movement is important because we almost lost the motion of the arm and shoulder. The back and the right side are very annoying (Participant 12).

Otherwise, it was perceived still from the narratives that emotional pain followed closely the physical pain, although indirectly. Participant 2 verbalized clearly that social isolation meant deeper and painful emotional pain in comparison with the physical ones: "Not seeing and hugging each other, this hurts and it hurts badly".

Only four women indicated they did not feel physical pain in the period before or during the pandemic and some of them utilized the synonym "discomfort" to reflect the perceptions of their pain. Ten participants reported they did not notice any worsening of breast cancer related physical symptoms, it is worth mentioning.

Regarding the level of physical activity, the impact social isolation has caused is mirrored in an instigating number showing the growth of the participants who see themselves as sedentary. If then, only three of them affirmed they were regularly sedentary, in the next moment, it grew

to 12, more than half of the group analyzed. Various are the reasons for sedentary behavior in the pandemic: lack of motivation, no priority to physical exercise in the new routine, being alone at home without the colleagues of the group, non-adaptation to digital mean or even non-acceptance of remote physical activities strategies and wanting to be with their colleagues in-person for physical practice. In addition, there are practical issues involving the difficulty to access the Internet, digital illiteracy and lack of an assigned space in the household environment for the physical practice which apparently increased the number of sedentary participants significantly:

Nowadays [my health condition is] sedentary. I wake up at 11 a.m. if I want. I go to bed at 1 or 2 p.m. and with the cold weather I stay in bed, for sure! I'm receiving [online physical activities] but my Internet signal is poor in my house. For better signal, I have to move outdoor and my house is too small to make exercises. [...] then I must use my mobile data, my mobile has limits, it becomes expensive, and I have to control my expenses (Participant 5).

Overall, until then, the impacts on physical aspects were closely related to the regular, lack or reduction of physical activities practices. With the COVID-19 pandemic outbreak and the social isolation the health international and local authorities imposed, the routines of physical activities of the group needed to be reorganized and adjusted to the remote format through videos, lives and/or synchronized meetings. All the participants were in professional teleorientation, receiving videos and instructions about the practice.

The types of physical activity the participants most practiced before the pandemic were walking, bodybuilding, dance, stretching, gymnastic and functional training. Ten practiced twice a week and eight, from three to seven times a week. During social isolation the assiduity dropped, and the main activities were walking, dance, Pilates and stretching.

The main adaptations for online physical activity practice addressed operational issues as adjustments of the house environment and access to the Internet and subjective questions as the resignification of the physical activity, its concepts and finalities. In addition to the participant 18, other 14 affirmed they were adamant or unable to follow online activities:

I don't like it! I do singing lessons, we started this year, we had everything settled up, then the pandemic fell on and the teacher said "let's do it online" I didn't want, I need the physical presence of anyone with me, it is impersonal without (Participant 18).

The new format of classes implies in lack of group environment for the practice of physical activity. Colleagues side by side, agreeable and relaxed environment created with weekly meetings appear to be important structural elements to maintain the habit and motivation for physical activities practice. The main topics brought up as difficulties arising from online physical practice are related to issues of maintaining the regularity by their own, lack of motivation and feeling of loneliness:

It is the fact that you are actually alone, attending the class alone, we end up becoming lazy, it is very good to exchange with others, even if you are not so willing to practice, you get there, you talk and you eventually get on board (Participant 12).

100% of the participants mentioned they preferred in-person physical activities over the remote format, it needs to be pointed out.

Beyond those questions, the uncertainty of performing the exercises correctly was also a major obstacle of this moment. Thus, it appeared that learning new movements was somehow compromised, making the current practice to concentrate in movements formerly experienced and learned. Even with the non-adherence or disapproval the participants deemed the online practice as valid and relevant, affirming they would recommend to other individuals in the same health condition.

DISCUSSION

Seemingly, social isolation contributed for the worsening of the physical and clinical symptoms of breast cancer as perceived growth of lymphedema and pains, most of all in the limb of the oncologic surgery, in addition to reflecting in significant reduction of the regular practice of physical activity. A scenario of great practical and conceptual difficulties of remote physical activities ensues and the participants see it as a low interest strategy.

Women with breast cancer in the COVID-19 era have high odds of contracting the disease and worse clinical outcome in comparison with the population in general⁴. Due to the issues mentioned, lockdown, social distancing and isolation were necessary because of the escalation of COVID-19 cases. These participants quit the group of physical activity for women with breast cancer because of this new routine and fearing the disease, started to be sedentary. Officially, the city of Florianópolis – SC quarantined on March 16, 2020 according to the decree¹⁶ the respective authorities have issued. Since the beginning of the pandemic, the city has already accounted until August for 5,335 confirmed cases and 111 deaths¹⁷.

New strategies came up in this global crisis setting in order to ensure the professionals and the participants a safe scenario to continue the activities remotely and to minimize the side effects the inactivity has caused; but their preference was for in-person activities because it is a moment of changing experiences when they feel at ease to talk about cancer. In this important period in these women's life of expressing their emotional and physical experiences the humanization was a bond among participants and professionals.

The interventions are essential for these participants to prevent and treat the early preoperative and late complications, the remote consultations can help health in general and at the same time improve the quality of life. A study of Meneses et al.¹⁸ with Telehealth concluded that the physical well-being and emotional status remained equal, but the levels of pain improved during the period of intervention.

Through the systematic review it has been shown that physical activity improves the pain of women with breast cancer¹⁹. Pain is a multifactorial variable and emotional factors can influence its interpretation, it increases with new life habits as sedentarism²⁰. The participants reported pain in the homolateral limb of the surgery and in the breast. Pain as comorbidities in general is considered a specific type of suffering and physical exercise is able to promote improvement of pain-associated symptoms^{20,21}. As most of these participants were not in physiotherapy or practicing physical activity, it is possible that pain may have increased and impacted the daily activities negatively.

The limitations of this study have arisen from a possible misinterpretation the participants' showed in their responses because it was an investigation by telephone only, however, it was attempted to present the questions as clearly and straightforward as possible. The small sample consisted of women in breast cancer treatment attending a university extension program and may not be representative of women with breast cancer in other Brazilian geographic regions. Consequently, the results of this study cannot be generalized to other women with breast cancer.

CONCLUSION

Imposed social isolation due to the imminent danger of infection, most of all for risk groups as women with breast cancer appears to have contributed for the worsening of physical and emotional pains, more tiredness to do the daily activities and significant growth of participants who became sedentary. Apparently, the new restrictive scenario for the practice of physical activity stimulated by the use

of remote platforms does not favor an active life style because practical difficulties – access to Internet or space to perform activities – and conceptual – poor adherence to new remote strategies, lack of motivation and absence of companions – are the novel imposed routines the participants have to deal with. Therefore, it is important the focus in physical activity and its impacts over the participants' health in treatment of breast cancer during the COVID-19 pandemic to minimize the negative effects social isolation has caused.

CONTRIBUTIONS

All the authors contributed for the study conception and/or design, collection, analysis, interpretation of the data, wording, critical review and approved the final version to be published.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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