

Telerehabilitation in Survival Breast Cancer Patients: Need For Randomized Controlled Studies

Sağkalm Dönemi Meme Kanseri Hastalarında Telerehabilitasyon: Randomize Kontrollü Çalışmalara İhtiyaç Var



Ramazan Cihad Yılmaz¹



Deniz Kocamaz²



Nahide Ayhan Fidancıoğlu³

¹ Iğdır University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, Iğdır, Türkiye.

² Hasan Kalyoncu University Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, Gaziantep, Türkiye.

³ Ankara Yıldırım Bayazıt University Health Services Vocational School, Ankara, Türkiye.

Dear Editor:

Breast cancer survivors have to contend with symptoms associated with cancer and medical treatments. These symptoms are fatigue, pain, nausea, a decrease in the limit of movement in the affected upper limb, loss of cognitive function, depression, anxiety, and decreased quality of life. In order to prevent the recurrence of cancer and reduce these symptoms, rehabilitation programs can be implemented to increase the physical activity of these patients (1,2).

Moderate or vigorous-intensity physical activity reduces the risk of breast cancer. Physical activity during and after treatment contributes to the improvement of quality of life and physical function. It is stated that survival is increased in physically active women. Physical activity is a modifiable lifestyle factor and is recommended for breast cancer survivors (3). It is emphasized in the literature that there should be effective and feasible programs to meet the rehabilitation needs (4). Telerehabilitation, which is one of the approaches that encourage physical activity, is remarkable because it is a very innovative and self-improving approach. It is seen that the telerehabilitation approach has an important role in improving functional outcomes with its interesting and effective results in recent years.

There are numerous articles and randomized controlled trials on the effects of physical activity in breast cancer survivors. However, randomized controlled trials on telerehabilitation interventions are still lacking. With the help of the telerehabilitation method, the level of physical activity in this group can be increased and guidance can be given to them. Based on this need, we conducted a study to evaluate the evidence related to telerehabilitation in breast cancer by considering the following criteria:

1. Publications on telerehabilitation practices in breast cancer survivors from 2010 to 2022,

2. The keywords used were “breast cancer” and “Telerehabilitations”,

3. Article types: Randomized controlled trial,

4. Writing the article in English.

Based on the literature review, a total of four randomized controlled studies were found (Table 1).

In the first of the studies, the effect of internet-based exercise intervention on quality of life, pain, muscle strength and fatigue in breast cancer survivors was questioned. As a result of the intervention, it has been shown that telerehabilitation can improve quality of life and muscle strength, reduce pain and fatigue (5).

The second study includes secondary results from the first study to examine telerehabilitation in breast cancer survivors. After 6 months of follow-up, it was shown that the telerehabilitation intervention was superior to the control group in improving and maintaining functional capacity and cognitive function (6).

In the third randomized controlled trial, it was shown that the mobile rehabilitation implementation that provides supervised rehabilitation is superior in improving the quality of life and upper limb functionality compared to the implementation that only provides mobile communication. It has been stated that tele-strategies involving supervised rehabilitation can have a much more advanced effect on providing benefits (7).

In the fourth study, it was seen that internet-based remote exercise and weight control intervention gave effective results in breast cancer survivors. It was stated that these patients had positive effects on weight loss and some biomarkers with the internet-based intervention (8).

As a result, the number of evidence on telerehabilitation in patients with breast cancer during the survival period is small. What is the effect and efficiency of different telerehabilitation approaches? In order to develop appropriate protocols regarding the frequency,

Correspondence: Ramazan Cihad Yılmaz, Iğdır University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, Iğdır, Türkiye. E-mail: fzt.yilmaz.cihad@gmail.com

Cite as: Yılmaz RC, Kocamaz D, Ayhan Fidancıoğlu N. Telerehabilitation in Survival Breast Cancer Patients: Need for Randomized Controlled Studies. Phnx Med J. 2023;5(3):242-244.

Received: 16.12.2022

Accepted: 26.07.2023

Online Published: 24.10.2023



intensity and types of therapeutic exercise to be used in telerehabilitation treatment in breast cancer survivors, more randomized controlled trials are needed.

This letter supports the importance of telerehabilitation in breast cancer survivors. Randomized controlled studies to be conducted in this area may provide stronger evidence for effective and efficient telerehabilitation treatment, and may help clarify the recommendations. With oncological

telerehabilitation, exercise planning, exercise training consultancy, simultaneous exercise implementation and follow-up can enable patients to adopt active behaviors. We think that randomized controlled trials, especially related to supervised telerehabilitation, will support oncologists, physical therapists and physiotherapists working in this field to reduce the chronic problems experienced by breast cancer survivors.

Table 1: Four different randomized controlled trials

Title	Telehealth system: A randomized controlled trial evaluating the impact of an internet-based exercise intervention on quality of life, pain, muscle strength, and fatigue in breast cancer survivors.	Effect of an Internet-based telehealth system on functional capacity and cognition in breast cancer survivors: a secondary analysis of a randomized controlled trial.	Mobile health and supervised rehabilitation versus mobile health alone in breast cancer survivors: Randomized controlled trial	The Effects of a Remote-Based Weight Loss Program on Adipocytokines, Metabolic Markers, and Telomere Length in Breast Cancer Survivors: the POWER-Remote Trial
Journal, year, authors	Cancer, 2016, Galiano-Castillo et al.	Supportive Care in Cancer, 2017, Galiano-Castillo et al.	Annals of Physical and Rehabilitation Medicine, 2020, Lozano-Lozano et al.	Clin Cancer Res., 2020, Santa-Maria et al.
Subjects	40 to telerehabilitation group 41 to control group	40 to telerehabilitation group 41 to control group	40 to BENECA mHealth 40 to BENECA mHealth and rehabilitation	45 to POWER-remote lost 42 to self-directed
Exercise program	Using the e-CUIDATE system, 3 sessions a week, each session consisting of approximately 90 minutes of resistance and aerobic exercises	A total of 24 sessions (3 sessions per week) resistance and aerobic exercises for 90 minutes a day	Individualized Active ROM session, Group psychomotricity sessions, Group psychosocial sessions	Participants received web-based behavioral weight loss coaching and exercise tracking.
Aim of the study	Efficacy of 8-week telerehabilitation intervention in breast cancer survivors	To determine the effect of telerehabilitation on functional capacity and cognitive function in breast cancer survivors	To determine the clinical efficacy of the BENECA mobile Health (mHealth) app in combination with the supervised rehabilitation program (BENECA and supervised rehabilitation) on the functional outcomes of the BENECA mHealth app alone in breast cancer survivors.	To examine the effect of a web-based weight loss intervention on various biomarkers in breast cancer survivors.
Results	Telerehabilitation intervention has had benefits on general health status, physical, role, cognitive functioning, and arm symptoms and pain.	Effective results were obtained with 8 weeks of telerehabilitation intervention in improving functional capacity and cognitive function. It was also stated that this intervention was effective during the 6-month follow-up period.	Administration of BENECA mHealth with a supervised rehabilitation program had a statistically and clinically significant effect on QoL and upper extremity functionality in breast cancer survivors.	It was observed that the intervention given to the participants with web-based follow-up (tracking their weight, food and beverage intake, and exercise) had positive effects on weight loss and on various biomarkers.

Conflict of Interest: No conflict of interest was declared by the authors.

Funding: There is no financial support of any person or institution in this research.

Approval of final manuscript: All authors.

REFERENCES

- Loubani K, Schreuer N, Kizony R. Telerehabilitation for managing daily participation among breast cancer survivors during COVID-19: A feasibility study. *Journal of Clinical Medicine*. 2022;11:1022.
- Aras M, Ünsal S. The essence of rehabilitation of patients with cancer. *Turk J Phys Med Rehab*. 2007;53:74-77.
- Johnsson A, Broberg P, Krüger U, Johnsson A, Tornberg ÅB, Olsson H. Physical activity and survival following breast cancer. *European Journal of Cancer Care*. 2019;28:e13037.

4. Aras M, Delialioğ SÜ, Atalay N, Taflan-Selçuk S. Kanser hastalarının rehabilitasyon gereksinimi. *Turk J Phys Med Rehab.* 2009;55:25-29.
5. Galiano-Castillo N, Cantarero-Villanueva I, Fernández-Lao C, Ariza-García A, Díaz-Rodríguez L, Del-Moral-Ávila R, Arroyo-Morales M. Telehealth system: A randomized controlled trial evaluating the impact of an internet-based exercise intervention on quality of life, pain, muscle strength, and fatigue in breast cancer survivors. *Cancer.* 2016;15:3166-3174.
6. Galiano-Castillo N, Arroyo-Morales M, Lozano-Lozano M, Fernández-Lao C, Martín-Martín L, Del-Moral-Ávila R, et al. Effect of an Internet-based telehealth system on functional capacity and cognition in breast cancer survivors: a secondary analysis of a randomized controlled trial. *Supportive Care in Cancer.* 2017;25:3551-3559.
7. Lozano-Lozano M, Martín-Martín L, Galiano-Castillo N, Fernández-Lao C, Cantarero-Villanueva I, López-Barajas IB, et al. Mobile health and supervised rehabilitation versus mobile health alone in breast cancer survivors: Randomized controlled trial. *Annals of Physical and Rehabilitation Medicine.* 2020;63:316-324.
8. Santa-Maria CA, Coughlin JW, Sharma D, Armanios M, Blackford AL, Schreyer C, et al. The Effects of a remote-based weight loss program on adipocytokines, metabolic markers, and telomere length in breast cancer survivors: the POWER-Remote Trial. *POWER-Remote for breast cancer survivors. Clinical Cancer Research.* 2020;26:3024–3034.