EPOSTER 21

The Effects of Exercise on Mental Health of Breast Cancer Patients

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Background: Patients diagnosed with breast cancer may experience many mental health issues that are often not treated appropriately [1, 2]. Breast cancer diagnosis and treatment causes mental problems like stress, anxiety and depression [1-3]. Exercise interventions have a beneficial effect on psychological functions and mental well-being [4-6]. Exercise training is an important part in breast cancer rehabilitation and might improve the mental health status of these patients [7-14].

Purpose: The aim of this literature review is to point out how exercise may affect the mental health of breast cancer patients.

Methods: A literature search was conducted in four databases (PubMed, OVID, Web of Science and Scopus). The search included articles concerning exercise for breast cancer patients with mental health related outcomes. Articles reporting only physical health outcomes were excluded from this review. Two authors searched the literature independently and selected the articles. Any disagreements were resolved by a third researcher.

Results: After the literature search 875 articles were found and 21 of them were included in the review. The included papers indicated that exercise improves quality of life, depression symptoms, cancer-related fatigue, anxiety and mood for breast cancer patients. Most of the studies provided a combined exercise protocol of aerobic and resistance training. The measurement mostly counted was Quality of Life. There was a high heterogeneity of the interventions and the different measurements performed.

Conclusions: The results of this review agree with the results of the latest meta-analyses on the subject. Physical exercise can be beneficial for mental health and should be included in multidisciplinary approaches for breast cancer patients. Future studies should focus on the specific characteristics of exercise (type, intensity) that might be prescribed.

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Keywords: breast cancer; exercise; mental health

References

[1] J. Fortin, M. Leblanc, G. Elgbeili, M. J. Cordova, M.-F. Marin, and A. Brunet, "The mental health impacts of receiving a breast cancer diagnosis: A meta-analysis," *British Journal of Cancer*, vol. 125, no. 11, pp. 1582–1592, 2021.



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- [2] H. Carreira, R. Williams, G. Funston, S. Stanway, and K. Bhaskaran, "Associations between breast cancer survivorship and adverse mental health outcomes: A matched population-based cohort study in the United Kingdom," *PLOS Medicine*, vol. 18, no. 1, 2021.
- [3] R. Ramírez-Vélez, F. Zambom-Ferraresi, A. García-Hermoso, J. Kievisiene, A. Rauckiene-Michealsson, and C. Agostinis-Sobrinho, "Evidence-based exercise recommendations to improve mental wellbeing in women with breast cancer during active treatment: A systematic review and meta-analysis," *Cancers*, vol. 13, no. 2, p. 264, 2021.
- [4] K. Mikkelsen, L. Stojanovska, M. Polenakovic, M. Bosevski, and V. Apostolopoulos, "Exercise and mental health," *Maturitas*, vol. 106, pp. 48–56, 2017.
- [5] K. S. Courneya, D. C. McKenzie, J. R. Mackey, K. Gelmon, C. M. Friedenreich, Y. Yasui, R. D. Reid, D. Cook, D. Jespersen, C. Proulx, L. B. Dolan, C. C. Forbes, E. Wooding, L. Trinh, and R. J. Segal, "Effects of exercise dose and type during breast cancer chemotherapy: Multicenter randomized trial," *JNCI: Journal of the National Cancer Institute*, vol. 105, no. 23, pp. 1821–1832, 2013.
- [6] L. B. Dolan, D. Barry, T. Petrella, L. Davey, A. Minnes, A. Yantzi, S. Marzolini, and P. Oh, "The cardiac rehabilitation model improves fitness, quality of life, and depression in breast cancer survivors," *Journal of Cardiopulmonary Rehabilitation and Prevention*, vol. 38, no. 4, pp. 246–252, 2018.
- [7] D. Bicego, K. Brown, M. Ruddick, D. Storey, C. Wong, and S. R. Harris, "Effects of exercise on quality of life in women living with breast cancer: A systematic review," *The Breast Journal*, vol. 15, no. 1, pp. 45–51, 2009.
- [8] B. T. Cuevas, D. C. Hughes, D. L. Parma, R. A. Treviño-Whitaker, S. Ghosh, R. Li, and A. G. Ramirez, "Motivation, exercise, and stress in breast cancer survivors," Supportive Care in Cancer, vol. 22, no. 4, pp. 911–917, 2013.
- [9] N. Fatkulina, V. Hendrixson, A. Rauckiene-Michealsson, J. Kievisiene, A. Razbadauskas, and C. Agostinis Sobrinho, "Dance/movement therapy as an intervention in breast cancer patients: A systematic review," Evidence-Based Complementary and Alternative Medicine, vol. 2021, pp. 1–6, 2021.
- [10] S. Casla, P. Hojman, I. Márquez-Rodas, S. López-Tarruella, Y. Jerez, R. Barakat, and M. Martín, "Running away from side effects: Physical exercise as a complementary intervention for breast cancer patients," *Clinical and Translational Oncology*, vol. 17, no. 3, pp. 180–196, 2014.
- [11] C. Fairman, B. Focht, A. Lucas, and M. Lustberg, "Effects of exercise interventions during different treatments in breast cancer," The Journal of Community and Supportive Oncology, vol. 14, no. 5, pp. 200–209, 2016.
- [12] K. D. Kang, S. Bae, H.-J. Kim, I. G. Hwang, S. M. Kim, and D. H. Han, "The relationship between physical activity intensity and mental health status in patients with breast cancer," *Journal of Korean Medical Science*, vol. 32, no. 8, p. 1345, 2017.
- [13] D. K. Ehlers, K. DuBois, and E. A. Salerno, "The effects of exercise on cancer-related fatigue in breast cancer patients during primary treatment: A meta-analysis and systematic review," *Expert Review of Anticancer Therapy*, vol. 20, no. 10, pp. 865–877, 2020
- [14] J. K. van Vulpen, P. H. M. Peeters, M. J. Velthuis, E. van der Wall, and A. M. May, "Effects of physical exercise during adjuvant breast cancer treatment on physical and psychosocial dimensions of cancer-related fatigue: A meta-analysis," *Maturitas*, vol. 85, pp. 104–111, 2016.

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