**The Effect of 1-year Tailored Exercise Training, on According to cytokine levels and Immune Function at Emphasis on IL-6 in Breast Cancer Patients: A Meta-analysis**

abd Ali Reza Arabestanino, ad Sina Naghibi Irvani, c Vahide Khorasani, (b) Emad Reza Steki,

f Parisa Aziminejadan, e Arman Ai, f Bita Dinarvand

**a Harvard Medica School, MA, Unite State, b Sheikh Khalifa Medical City (SKMC), Abu Dhabi, Emirate, c Islamic Azad University North Tehran Branch, Tehran, Iran, d Shahid Beheshti University Medical of Science, Tehran Iran,**

**e Tehran University Medical of Science, Tehran, Iran, f Iran University Medical of Science, Tehran, Iran**

Email Address: [alirezaarabestanino@gmail.com](mailto:alirezaarabestanino@gmail.com) & [aarabestanino@bidmc.harvard.edu](mailto:aarabestanino@bidmc.harvard.edu)

**Background:** Physical activity performance of patients during and after breast cancer treatment is common and is associated with increased toxicity from treatment, shorter time to tumor progression, and decreased survival. Exercise is a potential intervention to maintain or increase physical performance. We conducted a meta-analysis review of the 1-year Tailored Exercise Training, according to cytokine levels and Immune Function with Emphasis on IL-6 in Breast Cancer Patients. **Methods:** A comprehensive search was performed in September 2022 for randomized controlled trials reporting the effects of structured exercise training on Breast Cancer effect with cytokine levels and Immune Function with an Emphasis on IL-6 during or after cancer treatment. A random-effects meta-analysis was completed using the absolute net difference in the change between intervention and control groups as the outcome measure. Sensitivity and subgroup analyses were also performed. **Result:** Data from 18 studies involving 1833 breast cancer survivors were included in the meta-analysis. Overall, there was a significant benefit of exercise training compared with the control (I2 = 71.3%, 95% CI = 38.4% to 77.6%, P < 0.001). Subgroup analysis showed positive effects for resistance training and aerobic training and for exercise training conducted during or after cancer treatment. **Conclusions:** Compared with usual care, exercise training has a beneficial effect on in women with breast cancer, both during and after cancer treatment. Given the physiological and functional importance of women with breast cancer, oncologists should encourage their patients to engage in regular exercise training, with particular emphasis on resistance training.

**Key Word: Breast Cancer, Exercise Training, Immune Function, Oncology**