Could exercise counteract cardiotoxic chemotherapy for women with breast cancer?

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When you're a breast cancer survivor, the last thing you need is another health scare. So, it's concerning to know that up to 48% of breast cancer patients will go on to fight heart disease as a direct result of

chemotherapy.

Now, new research from the University of South Australia is exploring how to mitigate the irreversible damage associated with cardiotoxic chemotherapies and protect the heart from damage.

Conducted by UniSA Ph.D. candidate James Murray with UniSA's Dr. Rebecca Perry, Professor Eva Bezak and Dr. Hunter Bennett, the multi-disciplinary study is assessing the impact of exercise on preventing cardiac damage and dysfunction while reducing other well-known side-effects of chemotherapy.

In Australia, more than 17,000 Australian women are diagnosed with breast cancer each year. Globally, these cases reach more than 2.3 million women, and 685,000 deaths. It is estimated that a woman has a one in 52 (1.9%) risk of dying from breast cancer by age 85.

Murray says the study could change the fundamental care model for breast cancer patients.

"Chemotherapy for breast cancer is associated with many side-effects including fatigue, nausea, pain, depression and anxiety. But it's also known to increase the risk of heart disease, leading to heart failure, heart muscle damage and arrythmias, all of which significantly impact functional capacity and quality of life," Murray says.

"Understandably, chemotherapy patients often have little energy or desire to exercise. In fact, our research already shows that many women undergoing chemotherapy are fearful of doing exercise because they worry that it will further stress their bodies while already weakened by chemo.

"Yet as exercise is known to improve many side-effects of

chemotherapy—as well as improve health more generally—it stands to reason that it may also be a protective factor for the heart. And we are keen to see how healthy interventions can prevent negative effects of chemotherapy.

"In this study, we're investigating how structured exercise can improve heart function in women who are undergoing chemotherapy to treat breast cancer.

"So rather than using lifelong medical interventions to manage chemotherapy-associated complications, we're hoping that exercise could be a preventative intervention for cardiotoxic chemotherapy, with the added bonus of improving traditional side effects of cancer treatment such as fatigue."

The current exercise study is still seeking participants. If you would like to know more, please visit: https://www.unisa.edu.au/research/research-volunteers/cardiovascular-health-and-function-research-study.

More information: James Murray et al, The impact of breast cancer on fears of exercise and exercise identity, *Patient Education and Counseling* (2022). DOI: 10.1016/j.pec.2022.03.002

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