Clinical Benefits of Circuit Weight Training in Breast Cancer Patients: A mini-Review

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INTRODUCTION

Breast cancer remains the most frequently diagnosed cancer in women globally. In Europe, the incidence rate is 94.3 per 100,000 women, with a mortality rate of 26 per 100,000 (1). In the United States, it accounts for about one-third of all cancers in women and is the second leading cause of cancer-related deaths worldwide (2). According to the World Health Organization, nearly 8 million people worldwide are living with a breast cancer diagnosis made in the past five years, making it the most prevalent cancer. It also causes more disability-adjusted life years (DALYs) to lose than any other cancer (4)

As more women survive breast cancer, there is growing attention on improving their quality of life—not just survival. Many survivors continue to experience challenges such as fatigue, pain, anxiety, fear of recurrence, and social or sexual difficulties (5). Although treatment techniques and support services have improved, the impact of cancer and its treatment can still be profound. These challenges highlight the need for accessible, holistic approaches to support recovery and overall well-being.

DISCUSSION

Circuit weight training (CWT) is a style of exercise that combines resistance training and cardiovascular conditioning. It involves performing several exercises back-to-back with minimal rest in between. This approach has been shown to improve strength, endurance, and overall fitness, while also helping with fat loss and metabolic health (6)(7)(8).

Unlike traditional weight training, CWT uses a faster pace and often alternates between upper and lower body exercises. This format allows for a higher volume of work in less time and can reduce muscle fatigue while keeping the heart rate elevated (9). These benefits make it an ideal form of exercise for breast cancer patients, who may struggle with low energy and limited stamina after treatment.

Several studies have shown that exercise, including resistance training, can help reduce depression, anxiety, and fatigue in breast cancer patients (10)(11). CWT offers a unique combination of physical and

psychological benefits. It improves muscular strength and cardiovascular fitness—both of which are often diminished during cancer treatment (12). Over time, CWT can help patients feel stronger, more capable, and more in control of their recovery.

Beyond the physical benefits, regular exercise plays an important role in improving mood, sleep, and emotional resilience (13)(14). Structured programs that include education and emotional support may further enhance these effects (15)(16). Group-based training can also provide social connection, reducing feelings of isolation that many patients experience during and after treatment.

Physiologically, CWT improves muscle endurance and joint stability while supporting better neuromuscular control (17). These changes help reduce the risk of injury and support better function in daily life. On a broader level, exercise is known to protect against chronic diseases, including heart and metabolic conditions, which are common among cancer survivors (18).

There are also neurobiological benefits. Aerobic and resistance training are linked to increased brain-derived neurotrophic factors (BDNF), which supports brain health and emotional regulation (19). Resistance training specifically helps maintain functional independence, which is critical for long-term quality of life (20). When introduced early during treatment, exercise can improve fatigue, boost mood, and even reduce the risk of recurrence when combined with healthy lifestyle habits (21)(22)(23).

CONCLUSION

Circuit weight training offers a powerful, adaptable approach to supporting breast cancer patients during and after treatment. By combining the benefits of strength and cardio training, it helps improve physical function, reduce fatigue, and promote emotional well-being. Just as importantly, it empowers women to take an active role in their recovery. As research continues to support the safety and effectiveness of exercise in cancer care, CWT stands out as a practical, accessible option that addresses the full range of challenges faced by breast cancer survivors.

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