

Aerobic Exercise and Health-Related Quality of Life in Colon Cancer Survivors: A Randomized Controlled Trial

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Introduction

Objective of this article is to examine the impact of aerobic exercise on colon cancer survivors' HRQoL (health-related quality of life). Thirty-nine stage I–III colon cancer survivors were divided into three groups and randomly assigned to receive normal treatment, 150–300 minutes per week of aerobic exercise, or 300–600 minutes per week of aerobic exercise. Measures of HRQoL included the Short Form (SF)-36 physical and mental component summary, Functional Assessment of Cancer Therapy-Colorectal (FACT-C), Pittsburgh Sleep Quality Index (PSQI), Fear of Cancer Recurrence Inventory (FCRI), Fatigue Symptom Inventory (FSI), and North Central Cancer Treatment Group bowel function questionnaire, both at baseline and after intervention. The main hypothesis was that exercise would increase HRQoL results in a dose-responsive manner, with high-dose aerobic exercise producing the greatest increases in HRQoL outcomes. Multiple HRQoL outcomes are improved by higher aerobic exercise dosages, up to 300 minutes per week, in stage I–III colon cancer survivors [1]. These data show that aerobic exercise may offer colon cancer survivors a number of health advantages.

Description

Colon cancer is a disease that affects about a million individuals globally every year. The mortality from colon cancer has decreased over the past 50 years as a result of earlier identification and more effective treatments. The whole population's long-term survival rate applies to colon cancer patients who are still in remission [2]. When compared to the general population, colon cancer survivors frequently experience worsening in a number of areas of health-related quality of life (HRQoL), despite advancements in survival. In addition to poorer physical and mental health, increased rates of insomnia, ongoing cancer-related exhaustion, and colon cancer-specific impairments such as bowel dysfunction and worry about the disease returning, these impairments also include higher rates of sleeplessness. The amount of physical activity that colon cancer survivors engage in decreases throughout cancer treatment and frequently does not increase to pre-diagnosis levels after treatment is finished. Up to 90% of colon cancer survivors may not be exercising for the suggested minimum of 150 minutes each week, which could partially account for this. Greater physical and mental wellbeing, better sleep, less weariness, less concern about disease recurrence, and improved bowel function are all associated with higher levels of physical exercise, according to cross-sectional research [3]. Increases in physical activity volume are associated with enhancements in HRQoL, according to prospective cohort studies. Randomized trials, though, have not been able to show that exercise enhances HRQoL in colon cancer survivors. For instance, 102 colon cancer

survivors who were randomly assigned to a 16-week moderate-intensity aerobic exercise programme did not significantly enhance HRQoL when compared to a control group receiving normal treatment. In another trial, weekly phone contact was used as the control group while 46 colon cancer survivors were randomised to a 12-week at-home aerobic walking programme with behavioural therapy [4]. The recommended exercise durations for these randomised trials range from 60 to 150 minutes per week. In colon cancer survivors, higher exercise levels, such as 300 minutes per week, are linked to a lower risk of disease recurrence and premature death [5]. It is conceivable that a higher intensity of exercise, such as 300 minutes per week, may also be required to encourage improvements in HRQoL in colon cancer survivors. The COURAGE trial was a randomised controlled study with the main goal of comparing 150 and 300 minutes per week of aerobic exercise to usual care control over a six-month period in men and women with a history of stage I to stage III colon cancer in order to determine its safety, viability, and biological efficacy. Publications have been made of the COURAGE trial's primary and secondary biologic results. Results for the secondary study outcomes, as reported by patients, were predetermined. According to our hypothesis, exercise would enhance HRQoL results in a dose-dependent manner, with high-dose aerobic exercise producing the greatest enhancements [6].

Conclusion

The conclusions of this randomised controlled trial demonstrate the dose-response effects of reasonable aerobic exercise to enhance multiple HRQoL outcomes, and they imply that a high-dose of aerobic exercise (300 minutes per week) may be required to enhance physical function, cancer-specific quality of life, sleep quality, and fatigue among early-stage colon cancer survivors. These data imply that greater amounts of aerobic exercise are required to enhance HRQoL in colon cancer survivors.

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