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Editorial

The time has come for oncologists to recommend physical activity to cancer survivors

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Significant progress has been made in the field of exercise oncology since Winningham and MacVicar published their landmark study(1). Twenty-five years ago, patients receiving adjuvant therapy for breast cancer were given recommendations to rest and avoid exercise. Yet this first study had revealed that interval aerobic exercise was feasible and safe in this setting. More importantly, it also identified significant improvements in aerobic capacity, body composition, and patient-reported nausea. Some years later, Dimeo et al. determined that starting rehabilitation with hospitalized patients immediately following high-dose chemotherapy and stem cell transplantation was not only feasible but could also minimize chemotherapy-related complications and avoid the usual loss of performance (2).

Given the current survival rates of patients with cancer, interventions aimed at improving psychological well-being and physical functioning are important from a public health perspective (3). Regular exercise has been associated with significant improvements in muscle strength, aerobic capacity, functional quality of life (QoL), fatigue, anxiety, and self-esteem, along with a low incidence of adverse events (4). The scientific evidence about the impact of exercise on cancer-related fatigue has recently been reviewed, and the conclusion drawn is that aerobic exercise both during and after cancer therapy can be beneficial (5). Exercise should be part of the strategy used to manage fatigue. Several international associations have published exercise guidelines for cancer patients to be applied both during and following their completion of therapy (6,7). Recommendations are essentially the same as for people with no history of cancer, advocating ≥150 minutes of moderate-intensity (or ≥75 minutes of vigorous-intensity) physical activity (PA) per week.

The findings of a series of epidemiological studies published in the 2000s prompted the question of whether exercise could modify cancer progression. These studies examined the relationship between self-reported PA after a diagnosis of cancer and prognosis (recurrence, cancer-specific mortality, non-cancer mortality, and all-cause mortality). In patients with breast cancer, moderate-intensity recreational PA was linked to a 24–67% reduction in the risk of all-cause death and a 50–53% reduction in the risk of death attributed to breast cancer (8). For those with colon cancer, three hours per week of moderate-intensity recreational PA was associated with a 50–63% reduction in the risk of all-cause death and a 39–59% reduction in the risk of death attributed to colon cancer (9,10). More recently, Campbell et al. were able to detect for the first time a link between more leisure time spent sitting and a higher risk of mortality among survivors of colorectal cancer (11).

Despite considerable evidence supporting the benefits of PA throughout the continuum of cancer survivorship, neither oncologists nor patients seem clearly aware of such benefits, suggesting that communication efforts are lacking or ineffective. A large proportion of cancer survivors do not regularly engage in PA, and adherence to international recommendations varies widely across countries (12,13). Becoming physically active is a challenge for healthy adults and is likely to be even more difficult after a cancer diagnosis. It is true, however, that a physician's recommendation to exercise is a strong predictor that a patient will commence PA and remain physically active. Unfortunately, PA does not usually form part of the cancer treatment plan, despite recommendations in the latest versions of the guidelines issued by the National Comprehensive Cancer Network (NCCN) for breast and colon cancer survivors. A diagnosis of cancer may be an opportune time for reflection on changing lifestyle habits, and doctor–patient interaction is pivotal in creating teachable moments. The practice of oncologists initiating discussions about PA as part of a rehabilitation programme varies among countries and

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probably also according to each hospital and physician. Although an oncologist may have a favourable attitude about recommending regular PA to cancer survivors, several barriers, such as unawareness of the documented benefits of PA or referral opportunities, may prevent the doctor from providing exercise advice (14).

Oncologists and family doctors alike, should be encouraged to counsel their patients on the benefits of PA. The education and training of health professionals is a first step. Oncologists should be able to effectively discuss the benefits of PA with their patients, reassure them that exercise is safe and associated with improved overall survival and QoL, and refer them to an exercise trainer. There is also a need for training programmes for exercise professionals, such as the "Certified Cancer Exercise Trainer" qualification created by the American College of Sports Medicine and the American Cancer Society. The importance of lifestyle changes should be emphasized by indicating patients' PA levels in their medical records (15). As part of the treatment plan for patients with cancer, we advocate the routine assessment of PA levels and cardiorespiratory fitness as well as providing them with written PA recommendations (16). Medical oncologists and exercise professionals need to work together to improve our understanding of the biological pathways that can potentially modulate the effects of exercise on cancer progression. To this end, creating a multidisciplinary team comprising a physician specialized in sports medicine, exercise professionals with specific training in cancer, medical oncologists, and oncology nurses would be more than justified. For research purposes, we would also recommend having available an expert in the social sciences to provide direction concerning the qualitative aspects of the issue such as awareness and barriers.

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