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Integrating Physical Activity Into Clinical Cancer Care

Abstract: *Physical activity is an important target for improving health and well-being among cancer survivors. Cancer clinicians are uniquely positioned to promote physical activity among survivors through follow-up visits for treatment planning and surveillance. Providers should prioritize assessment of guideline-concordant physical activity and facilitate achievement of physical activity guidelines through exercise prescription, goal setting, addressing barriers, and capitalizing on support systems.*

Keywords: physical activity; cancer; clinical care

The use of lifestyle medicine in “serious diseases” is, understandably, often overlooked.

As is the case with cancer, disease treatment is complex. Treatment plans commonly such as chemotherapy, radiotherapy, surgery, and other modalities can induce significant fatigue and side effects or involve arduous recovery. Planning and administering cancer treatment and conducting longer term surveillance can require that cancer survivors and their caregivers invest significant time, finances, and energy. With cancer survivors facing life-threatening diseases, recommending

additional physical activity might seem overly simplistic or unnecessarily burdensome. Possibly for these reasons, physical activity receives limited attention in clinical cancer care. However, as discussed in this issue by both Amireault et al¹ and Arem and Loftfield,² considerable evidence exists supporting the importance of physical activity following a cancer diagnosis.

Exercise is the focus of campaigns by the American College of Sports Medicine

element of treatment plans and surveillance across the continuum of cancer survivorship and warrants increased clinician focus. This article describes strategies that clinicians can use to assess, promote, and monitor physical activity among cancer survivors.

Guidelines

The ACSM and American Cancer Society recommend that cancer survivors follow

Promoting physical activity is a critical element of treatment plans and surveillance across the continuum of cancer survivorship . . .

(ACSM; “Exercise Is Medicine”) and the US Surgeon General (“Step it Up!”) to improve patient health through lifestyle modification.^{3,4} Regular physical activity is important for weight management and prevention of prevalent comorbidities, like type 2 diabetes and cardiovascular disease.^{5,6} Associations among physical activity and the prevention of cancer recurrence, reduction of risk of cancer death, and reduction of all-cause mortality are well documented.^{7,8} Promoting physical activity is a critical

the Physical Activity Guidelines for Americans: at least 150 minutes per week of moderate-intensity aerobic exercise (or at least 75 minutes of vigorous aerobic exercise) and full body strengthening exercises at least twice per week.⁹ Efforts to promote and assess exercise frequently focus on the aerobic recommendation and neglect strengthening exercise. However, the latter is critical for preserving and building skeletal muscle mass, maintaining physical functioning and independence, and preventing or

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improving chronic diseases.¹⁰⁻¹² Clinicians should make a point to assess *guideline-concordant* physical activity, including both aerobic *and* strengthening standards.

Assessment

A variety of methods are available for clinicians to assess and monitor physical activity.¹³ Brief questionnaires, such as a modified Godin Leisure Time Exercise Questionnaire, can be administered to assess cancer survivors' concordance with exercise guidelines.^{11,13} Individuals often overestimate both the intensity and quantity of exercise.¹⁴ To improve accuracy of exercise recall, clinicians should provide patients examples of exercise intensity and quantity (eg, walking briskly 30 minutes per day on at least 5 days per week, with a pace of at least 3 miles per hour or 20 minutes per mile).

In addition to assessing behavior via self-report, clinicians and survivors alike may benefit from assessment of objective, quantifiable outcomes that are related to physical activity. Basic field tests for aerobic fitness and functional strength, such as the 6-minute walk test¹⁵ and Short Physical Performance Battery,¹⁶ can be performed quickly and with minimal equipment to provide useful information for targeting specific exercise modalities and setting goals. The act of completing questionnaires and physical assessments as well as knowing that clinicians are reviewing their progress may help cancer survivors maintain health-enhancing exercise regimens. Physicians should reassess physical activity at follow-up appointments to monitor patients' progress relative to recommendations.

Promotion

Physical activity recommendations should be individualized based on the patients' results from physical activity assessment, with the general goal of gradually increasing activity to achieve the Physical Activity Guidelines for Americans. Exercise guidelines should be

modified and reduced for individuals whose age, disease status, treatment status, mobility limitations, or comorbidities precludes complete adherence.⁹ Evidence suggests that accumulating aerobic exercise in continuous bouts of at least 10 minutes and at least moderate exercise intensity confers the greatest health benefits.¹⁷ Cancer survivors who were previously sedentary or accumulated little physical activity may find short exercise bouts to be more manageable than longer bouts, especially during treatment periods. To improve adherence to strengthening exercise recommendations, patients should be encouraged to gradually increase sets, repetitions, and resistance.¹⁸

Goal Setting

Clinician-facilitated goal setting can help increase patient physical activity.¹⁹ As recommended by ACSM, exercise goals should be SMART: Specific, Measurable, Action-based, Realistic, and Timely.²⁰ Goals should be individualized and specific enough for progress to be measured. Action-based refers to focusing goals on behaviors instead of outcomes. Goals to increase exercise duration or intensity are likely to be more effective in conferring fitness or weight maintenance benefits than outcome-based goals such as getting stronger or losing weight. Ensuring that goals are realistic and timely helps avoid frustration and make progress. A completely sedentary cancer survivor may be unable to comfortably perform 150 minutes of moderate-intensity aerobic activity next week, but more likely to make a small increase in duration or intensity of activity. Follow-up clinic visits provide convenient, realistic, and time-bound goals for gradual improvements.

Addressing Barriers

Clinicians can assist patients in setting and attaining SMART goals by addressing barriers to and identifying supports for behavior change. Some patient aversion to increasing physical activity can be ameliorated by highlighting the variety of

physical activity opportunities available (eg, walking, hiking, swimming, aerobic exercise machines) and ways to integrate exercise into social opportunities with family or friends. Aversion due to a lack of comfort or experience with exercise should be addressed by suggesting low-impact physical activities (eg, aquatic exercise or elliptical trainers) and by encouraging gradual progress.

Individuals with limited exercise experience may misunderstand the differences between aerobic and strengthening exercise and are likely unaware of how to meet the different components of physical activity recommendations. These patients will require guidance involving sets, repetitions, and rest. Specific strength-based recommendations from the ACSM may be a helpful resource for clinicians to provide survivors,¹⁸ and the "talk test," a self-assessment of how easy it is to have a conversation during exercise, is a simple method for individuals without exercise experience to understand exercise intensity recommendations. Clinicians can discuss resources (eg, parks, trails, malls, fitness facilities, and home exercise equipment) that may help facilitate adherence to aerobic and strengthening exercise guidelines. Furthermore, patients may be encouraged to utilize self-monitoring strategies such as maintaining exercise logs or tracking exercise using commercial physical activity monitors.²¹

Support

Family members, friends, and caregivers can be valuable resources for increasing physical activity among cancer survivors.^{22,23} Just as logistical support is important for cancer survivors' medical care, social support can help cancer survivors plan for and access opportunities to increase physical activity. Companionship during physical activity may help improve cancer survivors' self-efficacy to perform aerobic and strengthening exercise safely and effectively. Members of social support systems can help hold cancer survivors accountable to their exercise goals and

encourage them by praising continued progress. Given their potential importance in helping cancer survivors adopt and maintain positive behavioral changes, clinicians should discuss physical activity goals among family, friends, and caregivers who attend clinic appointments and encourage cancer survivors to seek their support.

Conclusion

Behavior change is complex and difficult. Physicians are uniquely positioned and underutilized as resources in encouraging lifestyle behavior change in cancer treatment. Physician visits in the continuum of cancer survivorship, whether for treatment planning or surveillance, frequently represent important “teachable moments,” at which cancer survivors may be particularly motivated to adopt or maintain positive lifestyle changes. Cancer survivors may be exceptionally motivated by the potential to minimize side-effects, improve treatment outcomes, accelerate posttreatment recovery, and minimize risk of health issues that can affect survivorship. Furthermore, the nature of cancer treatment and surveillance lends itself to repeated, in-person follow-up. Although retention is an important limitation in many interventions to increase physical activity, cancer survivors can generally be expected to adhere to guidelines for follow-up appointments involving care and surveillance. As outlined in this article, physicians have a variety of opportunities and can utilize simple tools to assess physical activity, encourage improvement, and monitor progress toward goals.

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