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Contemporary Issues in Cancer Rehabilitation

Making Cancer Rehabilitation Services Work for Cancer Patients: Recommendations for Research and Practice to Improve Employment Outcomes

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Abstract

Cancer and its treatment can result in impairments that limit physical, psychosocial, and cognitive functioning, interfering with patients' ability to perform work-related functions. Because these work limitations can carry significant personal and societal costs, there is a timely need to identify and refer patients to cancer rehabilitation services to manage adverse consequences of treatment and to preserve employment. Coordinated efforts in 3 key areas will better connect patients to rehabilitation interventions that will help optimize employment. These include the following: planning for the impact of cancer on the ability to work; implementing routine screening for impairments and facilitating referrals to cancer rehabilitation specialists; and focusing rehabilitation interventions on preserving employment. Coordinated strategies are presented to achieve these 3 goals, including the following: implementing changes to clinical practice to routinely screen for impairments; working with oncology providers and patients to better understand the benefits of cancer rehabilitation to facilitate referrals and uptake; training more cancer rehabilitation providers to handle the increased need; better coordination of care across providers and with employers; and filling research gaps needed to proactively anticipate how cancer treatment would affect work for a given patient and deploy personalized interventions to preserve the ability to work.

Background

The number of Americans who have a history of cancer is growing, from a current estimate of 15.5 million to 20 million in the next decade [1]. In 2016, almost half of those newly diagnosed with cancer were of working age, conservatively defined as age 20-64 years [2]. In addition, older adults are increasingly working full- or part-time well past the age of 65 years. A cancer diagnosis and subsequent treatment can lead to a range of short-term, long-term, and late-onset symptoms. In particular, common adverse consequences of cancer treatment can include fatigue, pain, lymphedema, neuropathies, balance problems, mobility issues, bladder and bowel problems, dysphonia and other communication difficulties, dysphagia, cardiopulmonary function declines, sexual dysfunction, and cognitive and psychosocial problems, among others [3,4]. The resulting limitations in physical functioning, emotional and psychosocial concerns, and cognitive dysfunction can interfere with patients' ability to be functional at work [5-8].

In aggregate, 64% of patients return to work at some point after diagnosis [6]. However, people with a history of cancer are 1.37 times more likely to be unemployed than healthy controls (34% versus 15%) [9]. Cancer-related work limitations can carry personal and societal costs. For individuals, work limitations can lead to reduced income, financial hardship, and the loss of employer-sponsored health insurance and gaps in coverage, each of which has implications for the continuity of care. Furthermore, for many patients, occupation represents an important social role and serves as a source of self-worth; thus, work limitations can have a negative impact on social connectedness and access to meaningful activity. The societal cost of lost productivity is also substantial. National estimates of annual net

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productivity loss among those with a history of cancer are $9.6 to $16 billion for individuals 18-64 years of age and $8.2 to $10.6 billion for those 65 years or older [10].

The impact of cancer on employment depends on treatment side effects and job demands. Estimates of rates of return to work range from 24% to 94%, depending on cancer type and stage at diagnosis, which underscores the heterogeneity of work outcomes and the need for intervention [6]. Given the importance of work for individuals and society, the potential for cancer-related work limitations should be identified and managed throughout the treatment trajectory.

Prevention and improved management of adverse consequences of treatment requires early identification of impairments and timely referrals to cancer rehabilitation providers [4,11-15]. Cancer rehabilitation is medical care, ideally integrated with oncology and survivorship care through and beyond cancer treatment, delivered by a multidisciplinary team of rehabilitation professionals who are trained to diagnose and treat patients' physical, psychological, and cognitive impairments with a goal of maintaining or restoring function, reducing symptom burden, maximizing independence, and improving quality of life [13]. Cancer rehabilitation interventions include, but are not limited to, physical, occupational or speech therapy; therapeutic exercise; physiatry-directed diagnostic imaging, injections, and pharmacologic symptom management; and psychosocial and cognitive interventions. These have the potential to treat many impairments from cancer treatment, thereby improving functioning and quality of life [3,4,16,17]. Unfortunately, cancer rehabilitation services are currently underused, with referral rates as low as 1%-2% [18].

Several synergistic strategies are needed to better understand and address patients' work limitations that arise from cancer treatment from diagnosis forward. These include provider and patient education about rehabilitation, practice tools to facilitate identification of impairments and work limitations and generate rehabilitation referrals, and health care delivery research to identify best practices to prescribe the right treatment for the right patient at the right time. To support these strategies, this report will do the following: (1) review common adverse consequences of treatment and their association with aspects of work; (2) outline the potential for rehabilitation interventions to help patients maintain employment or return to work; and (3) articulate a vision for filling research gaps, training providers and educating patients, and making practice changes needed to optimize employment outcomes following a cancer diagnosis.

Review of Adverse Consequences of Cancer Treatment Affecting Work

Although the nature and severity of adverse consequences of treatment vary by cancer type, treatment regimen, and individual patient characteristics, common problems include decreased physical functioning, psychosocial impacts, and impaired cognition. These symptoms can interfere with patients' ability to be fully functional at work [7], resulting in prolonged absences, sub-optimal productivity, and decisions to drop out of the labor force entirely. This section reviews the literature describing common adverse consequences of treatment and their impact on work capacity.

Physical Functioning

Fatigue

Fatigue is one of the most common side effects of cancer treatment, affecting nearly all cancer patients at some point during their treatment [19]. Unlike noncancer fatigue, cancer-related fatigue is typically not alleviated by sleep and rest. In many cases, cancer-related fatigue will decrease after the conclusion of treatment; however, some patients experience chronic fatigue lasting for years after the end of treatment [20]. Fatigue can limit participation in activities and can exacerbate or precipitate poor physical functioning, depression, and cognitive dysfunction [19,21]. Evidence suggests that levels of fatigue are higher among individuals with versus without a cancer history, and that, not surprisingly, fatigue is consistently associated with work outcomes [22-25]. Horsboel et al demonstrated that patients with the highest scores of physical fatigue were approximately 50% less likely to return to work [25]. Among individuals who were working, those with a cancer history were almost twice as likely to report easy fatigability and exhaustion at work compared to individuals without a cancer history [23]. In addition, various aspects of work can exacerbate fatigue, including work pressure, physical workload, and a lack of workplace accommodation for new activity restrictions or challenges [26].

Pain and Neuropathy

Pain is also a common side effect of cancer treatment, estimated at 39%-66% of patients [27]. Pain affects quality of life in myriad ways, with patients reporting that pain hampered concentration, interfered with normal activities, and made them dependent on others [28]. Pain is a consistent predictor of poor work outcomes in the general population [28,29], and, although not well documented for cancer patients specifically, there is some evidence of similar findings [10]. For example, among breast cancer patients, women with arm pain and range of motion limitations are more likely to experience losses in productivity compared to women without pain [30]. Moreover, chemotherapy-induced peripheral neuropathy (CIPN) secondary to treatment with platinum compounds, taxanes, vinca alkaloids, thalidomide, and bortezomib can cause pain. Independent of pain, chemotherapy-induced peripheral neuropathy—associated numbness and tingling in the