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Physical and Mental Health Among Cancer Survivors:

Considerations for Long-Term Care and Quality of Life

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Abstract

The physical and mental health of cancer patients needs to be addressed not only during active treatment but also throughout the continuum of survivorship care. This commentary provides an overview of issues pertinent to cancer survivors, with an emphasis on mental health issues and recommendations for annual clinical screening and monitoring using recently published guidelines from the American Society of Clinical Oncology.

Cancer is a major health concern in North Carolina. In 2014 there will be an estimated 57,000 new cancer diagnoses and approximately 20,000 cancer deaths in the state [1]. Due to increases in early detection and advances in cancer treatments, an increasing number of cancer patients will be long-term survivors. Currently, there are approximately 13.7 million cancer survivors in the United States, and this number is estimated to increase to 18 million by 2022 [2]. North Carolina is no exception to this trend, and the total number of cancer survivors in the state was estimated to be approximately 330,000 in 2012 [3]. The majority of long-term cancer survivors are those with breast, prostate, colorectal, or gynecologic cancers [3]. The growing number of cancer survivors will pose challenges for health care systems seeking to meet these patients' long-term health care needs.

Cancer survivors face unique short-term and long-term challenges to physical and mental health, family functioning, and maintenance of a healthy lifestyle [4, 5]. Long-term and late effects of cancer treatment may arise during or after treatment and may persist throughout a patient's lifetime. Survivors may also need ongoing monitoring for cancer recurrence and the development of new cancers. Thus cancer can be perceived as a chronic condition, and recommendations are emerging for long-term survivorship care. Cancer survivors who have other chronic conditions or health risk factors at the time of diagnosis may face additional challenges during cancer treatment and follow-up care.

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Most research on the quality of life of cancer survivors has been completed in the past decade, with the majority of studies focusing on women with breast cancer [6]. The purpose of this commentary is to provide an overview of factors that affect health-related quality of life in cancer survivors, with a particular focus on mental health issues.

Factors Affecting Quality of Life in Cancer Survivors

Symptoms and physical functioning

Studies of quality of life in cancer survivors have examined both the physical and mental health consequences of cancer and its treatments. In general, health care providers have focused largely on patients' physical symptoms and physical health status, and less emphasis has been placed on mental health issues [7]. Physical symptoms vary across cancer types and treatment modalities but commonly include fatigue, sleep disturbances, pain, nausea and/or vomiting, diarrhea, neuropathy, skin rashes or toxicity, cachexia, arthralgias, myalgias, lymphedema, impaired sexual functioning, and cognitive problems [5, 6]. How these symptoms impact quality of life varies depending on a number of factors, including the type and stage of cancer at diagnosis, the patient's prognosis, the type of treatments received, the patient's age, and comorbidities (both before and after the cancer diagnosis). Socioeconomic status and access to care also affect receipt of effective treatment and relief of symptoms. Recent longitudinal research shows that many physical symptoms persist long beyond the initial treatment period and may influence survivors' quality of life throughout the remainder of their lives. In addition, conditions such as cardiotoxicity and accompanying symptoms can develop 10 years or more after treatment, indicating the need for long-term surveillance of and specialized care for cancer survivors. Even long after diagnosis, cancer survivors are significantly more likely than adults without cancer to be in poor health and to have multiple chronic medical conditions and functional and employment limitations [8, 9].

Mental health and well-being

For cancer survivors, as for individuals without a history of cancer, physical health directly influences mental health status and overall quality of life. Physical symptoms are more likely to be detected and treated by health care providers, as the mental health and social consequences of illness are less well recognized. However, poor mental health is the leading cause of disability in the United States; nearly half of US adults will develop mental illness at some point in their lives, and the economic cost of mental illness in the United States was approximately \$300 billion in 2002 [10]. Poor mental health is even more prevalent among those with chronic illnesses [11]. In responses to the 2010 National Health Interview Survey, 10.1% of cancer survivors reported poor mental-health–related quality of life, compared with only 5.9% of adults without cancer [12]. Population-based data suggest that cancer survivors are more than twice as likely to have disabling psychological problems compared with adults without cancer, and individuals who have both cancer and other chronic illnesses have a risk of psychological disability that is nearly 6 times higher than that of adults without cancer [8].

Risk factors for poorer mental-health–related quality of life among cancer survivors include younger age, less education, a greater number of noncancer medical conditions, lower

income, and not being partnered or married [12–15]. Whether there are racial or ethnic differences in mental-health–related quality of life among cancer survivors remains unclear. Several studies have found no racial/ethnic differences [12, 13]; other studies have found that African Americans (commonly breast cancer survivors) report better emotional well-being than whites [16]; and a few studies have reported lower mental-health–related quality of life among Hispanics, Asian Americans, or African Americans [13, 14]. Poor mental health is associated with risk factors and poor outcomes in the general population, where associations have been found between depression and nonadherence to medical treatment [17] and between depression and increased use of medical services [18]; similar associations have been found among cancer survivors, in whom depression has been found to be associated with maladaptive health behaviors and poorer overall survival [19].

Cancer diagnosis and treatment may be accompanied by profound physical, emotional, social, occupational, and financial stressors, as well as associated increases in anxiety and depressive symptoms. The first 1–3 years after treatment are a critical period during which to monitor the mental health of cancer survivors. Challenges during the early post-treatment period may include a shift in the focus of medical care (eg, from “fighting cancer” to surveillance, recovery, or wellness), fear of recurrence, resumption or alteration of life roles, late and long-term effects of treatment (which can be physical and/or psychological), perceived loss of support from providers, and diminished instrumental and emotional support from family and friends [20]. Long-term survivors may face psychological challenges associated with cancer recurrence or second cancers, as well as continuation of mental health symptoms that first occurred during diagnosis and treatment.

Most of the longitudinal research on mental health trajectories among cancer survivors has focused on the first year after diagnosis with breast cancer [21], although several studies have examined trajectories of mental health after treatment (from 8 to 55 months after diagnosis) [22, 23]. Studies have generally found trajectories indicating persistently good or poor mental health over time, but there are also some groups of women who experience significant declines or improvements in mental health in the years following diagnosis. Factors associated with better adjustment have included older age, being married or partnered, greater optimism, greater self-efficacy, better social support, less rigorous chemotherapy, less pain, and less intrusion of illness on daily life [21–23].

Age at diagnosis

Young and middle-aged adults who are diagnosed with cancer face additional stressors and challenges compared with those who receive cancer diagnoses at older ages [24, 25]. Across cancer types, younger age is a risk factor for poorer mental health outcomes. Although never welcome, a cancer diagnosis before age 50 years is less common and is more unexpected for many individuals. Younger women with breast cancer have been studied more than other populations of younger survivors, and we know more about the quality of life of these patients over time than we do about other cancer patients diagnosed as younger adults [26–28]. Among premenopausal breast cancer survivors, quality of life can be disrupted by chemotherapy-induced ovarian dysfunction—which can result in vasomotor symptoms, vaginal dryness, impaired sexual functioning, and sleep problems—as well as symptoms

associated with treatment, such as peripheral neuropathy, fatigue, cognitive symptoms, and pain. Younger breast cancer survivors also experience more psychosocial distress than middle-aged and older women, and many report feeling “out of sync” with their friends and peers while having to face the challenges of cancer diagnosis and treatment. The menopause transition and infertility may be important components of this distress. Disruptions in family and marital relationships, concerns about caring for children, work-related difficulties, and insurance and economic issues all add to the burdens of younger survivors.

Better psychological adjustment among younger patients has been found to be associated with greater social support, the use of coping strategies, and symptom management [29], and the physical and mental health status of many survivors improves as time from treatment increases. However, younger survivors face more potential years of symptom burden and anxiety about their future. Researchers are learning more about the impact of cancer diagnosis and treatment on the lives of younger adults, but we will need studies following survivors for 10 years or longer to track the type and time course of treatment effects on physical status, psychological status, and quality of life. We also need longitudinal information about male breast cancer survivors and about individuals diagnosed with cancers other than breast cancer. This information will help to inform intervention studies for long-term condition management and mental health care, particularly for patients diagnosed with cancer in their 30s and 40s.

Rural or urban residence

In the United States, disparities in cancer diagnosis, treatment, and mortality have been associated with rural residence [30–32]. In 2013 an estimated 22.4% of North Carolinians resided in rural areas, concentrated in the western and southern areas of the state [33]. Rural communities may lack access to the health care and supportive services necessary to maintain or improve quality of life following a cancer diagnosis. Lack of available services (eg, health clinics, physical therapy, psychotherapy, and nutritional services) may necessitate that cancer survivors drive longer distances to receive care, thus incurring higher transportation and associated costs and/or time off from employment for patients and/or caregivers. Individuals who lack family or other social resources may be particularly at risk. Rural communities may also have a higher prevalence of residents who have low educational attainment, lower incomes, and/or no health insurance [34].

Many studies, but not all, have found significantly poorer mental health among rural cancer survivors than among urban survivors. In the largest study to date, 18.8% of rural survivors in a US population-based sample reported clinically significant psychological distress, compared with 12.8% of urban survivors [35]. Importantly, this pattern does not appear to reflect an underlying difference in the general population, which suggests that observed rural-urban differences among survivors emerge after cancer diagnosis. Routine screening for depression is low regardless of rurality, but rural survivors who need mental health services may face the additional challenge of not finding ready access to health care providers and resources. Developing effective interventions that can be delivered in innovative ways to rural survivors, less mobile patients, and/or those with fewer resources could help to alleviate psychological morbidity among cancer survivors.

Mental Health Screening Recommendations

Psychosocial oncology is a multidisciplinary field that specializes in the psychological, social, and behavioral dimensions of cancer [36]. It has particular relevance for the quality of life of cancer patients from diagnosis through survivorship care, and it can greatly assist in improving the general health status of survivors. Recently, the American Society of Clinical Oncology (ASCO) published adapted guidelines for the screening, assessment, and treatment of anxiety and depressive symptoms in adults with cancer [37]. These guidelines are an excellent resource for recommendations regarding the timing of symptom screening, screening tools, and follow-up care.

In general, periodic mental health screening using validated instruments is recommended across the continuum of cancer care. Widely used screening instruments for depression and/or anxiety that are referenced in the ASCO guidelines include the 9-item Personal Health Questionnaire, the Hospital Anxiety and Depression Scale, the Geriatric Depression Scale, the Beck Depression Inventory, the Center for Epidemiological Studies–Depression Scale, the Spielberger State-Trait Anxiety Inventory, and the Beck Anxiety Inventory. Another relevant screening tool/system is the National Institutes of Health’s Patient Reported Outcomes Measurement and Information System, which has computerized adaptive-testing item banks and brief questionnaire assessment tools [38]. Timely identification and treatment of mental health concerns can greatly improve both the mental and physical health of cancer survivors.

In addition to using psychosocial measures of mental health or general distress, some clinicians may find it useful to have patients complete brief quality-of-life assessments, such as the 12-Item Short-Form Health Survey [39], the Functional Assessment of Cancer Therapy scale—General [40], or a single-item assessment (asking patients to indicate their overall quality of life on a scale from 0 to 10). This can provide another measure of how a patient’s physical or mental health status is affecting his or her overall quality of life, and it may be helpful in evaluating the impact of mental health interventions on the lives of survivors.

Summary

The quality of life of cancer survivors is multifaceted and is influenced by a variety of cancer-related and noncancer factors from the time of cancer diagnosis through long-term survivorship. Physical health and symptoms directly affect mental health, and vice versa. Cancer outcomes—like those of most illnesses—are influenced by socioeconomic status, access to care, supportive services, and rural-urban factors, all of which contribute to the well-being of cancer survivors in North Carolina.

Screening for mental health morbidity is just as important as monitoring physical health among cancer survivors, and mental health screening needs to be better integrated into active cancer treatment and survivorship. We suggest annual mental health screening using the ASCO guidelines described previously, with appropriate referrals to mental health professionals in patients’ communities or surrounding areas. Given that almost 1 in 4 persons in North Carolina live in rural areas and may have lower incomes and/or no health

insurance, it will be particularly important to provide assistance through social workers or patient navigators who can identify appropriate and affordable resources to improve patients' mental health status.

Future research will need to follow survivors long term to identify critical opportunities for follow-up, opportunities for physical and mental health interventions, and factors that might mitigate or buffer the adverse consequences of cancer and treatment. There is also a need for survivorship studies that focus on cancers other than breast cancer, on younger patients, and on male patients.

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