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Improving the Recognition and Treatment of Cancer-Related Posttraumatic Stress Disorder

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Abstract

Life-threatening illness has been identified as a stressor that can precipitate posttraumatic stress disorder (PTSD). Major advances in cancer treatment have led to increased survival periods. At the same time, there is a growing awareness of the psychological impact of cancer diagnosis and treatment on the patient. Cancer survivors report that cancer can elicit symptoms of traumatic stress. When cancer-related PTSD is untreated, medical and psychiatric morbidity increase. Despite the prevalence, impact, and morbidity of cancer-related PTSD, access to mental health care in cancer patients remains limited. It is important to increase mental health providers' awareness of cancer-related PTSD, given rising cancer rates and the potential for enhancing quality of life. This article presents an overview of the recognition, diagnosis, management, and follow-up of cancer-related PTSD for the mental health clinician.

Keywords

cancer; posttraumatic stress disorder; cancer survivorship; treatment development

Introduction

The World Health Organization has estimated that cancer rates could increase to 15 million new cases in the year 2020. Due to improvements in cancer care, survival rates are increasing. With increasing rates of cancer and survivorship, relief from suffering is an extremely important component of cancer care. In addition to physical suffering, cancer patients often experience distress due to psychiatric symptoms and conditions¹ and may in

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fact develop posttraumatic stress disorder (PTSD) in response to a cancer diagnosis.² Reported rates of lifetime cancer-related PTSD range from 3% to 22%.³ When cancer-related PTSD is untreated, treatment nonadherence, pain, desire to die, and disability may increase.⁴ The presence of comorbid cancer-related PTSD and other psychiatric illnesses such as major depressive disorder and generalized anxiety disorder may lead to worse survival outcomes.³ Despite the prevalence, impact, and morbidity of cancer-related PTSD, the identification of mental health needs of cancer survivors remains limited by the extent to which psychiatrists and other clinicians are knowledgeable about and qualified to address the effects of cancer diagnosis and treatment on mental health.² Consistent with existing practice guidelines and recommendations,^{1,2} it is important to increase mental health providers' awareness of cancer-related PTSD given the rising rates of cancer survivorship and the potential for enhancing quality of life. The assumption that anxiety and depression are normal reactions to cancer that decrease over time should be dispelled, since such psychiatric diagnoses add morbidity to already difficult care. This review provides an overview of the recognition, diagnosis, management, and follow-up of cancer-related PTSD for the mental health clinician.

Recognition and Diagnosis of Cancer-Related PTSD

A traumatic event is one that involves the threat of death or serious injury or a threat to one's physical integrity and evokes a reaction of intense fear, helplessness, or horror. Prior to the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders*, life-threatening illness was excluded as a stressor that could precipitate PTSD.⁵ However, the Task Force developing the DSM-IV recognized that the threat to life and bodily integrity due to a cancer diagnosis can elicit a deep sense of fear, devastation, and lack of control. Cancer as a precipitant to a PTSD diagnosis is distinct from other stressors in a number of ways.

Cancer is a unique stressor in that the threat of cancer can be perceived as internal with little chance of escapability and bodily signs serving as persistent reminders of the trauma, as outlined in Table 1. In addition, cancer is not time-limited and often, the period leading up to diagnosis, waiting for various test results or surgery, and exposure to noxious treatments (e.g., chemotherapy) all serve as equally traumatic stressors. The cumulative responses to such multiple and prolonged traumatic experiences distinguish cancer from a discrete, time-limited event as a stressor for PTSD. Cancer also carries with it the constant threat of re-emergence, and remission may be interrupted by acute episodes of recurrence. Over time, the traumatic stressor may not be the memory of the initial diagnosis, but the chief worry instead may center on recurrence, progressive deterioration, and death. Triggers for cancer-related PTSD symptoms are also unique in that they may occur in the medical setting during routine treatment procedures and follow-up appointments. Such distress varies based on cancer site, treatment type, functional limitations, and past and current symptoms.

Prevalence of Cancer-Related PTSD

PTSD Diagnoses

The rates of current or lifetime cancer-related PTSD range from 3%--22%, with most studies reporting a range of 4%--6%.³ This large variability is due to differences in selection bias in

the majority of the studies. Few studies have been conducted consistently on one type of cancer at a specific stage, making it difficult to compare findings when the types and stages of cancer, time since cancer diagnosis, treatment modalities, and histories of current or past psychiatric illnesses are rarely compared across more than one study.

PTSD Symptoms

The majority of cancer patients do not meet criteria for cancer-related PTSD, yet many survivors report one or more symptoms of the disorder. Traumatic events may elicit symptoms of stress in three distinct clusters: 1) intrusive thoughts and re-experiencing of the event, 2) emotional numbness and avoidance of reminders of the event, and 3) hypervigilance and physiological arousal.⁶ Intrusive thoughts are estimated to occur frequently in 16%-28% of cancer survivors and include recurrent or distressing thoughts or dreams related to cancer, thinking about cancer without intending to, and high levels of distress when reminded of cancer.⁶ Recurrent imagery may be associated not only with the cancer diagnosis but also with aspects of treatment and may occur in the form of nightmares or flashbacks.⁷ Cancer patients and survivors often experience emotional numbness and avoidance, which occurs in the form of avoiding thoughts and feelings associated with the cancer diagnosis and recurrence. It is estimated that between 15% and 34% of cancer survivors experience high levels of avoidance after treatment.⁶ Symptoms can include avoiding reminders about cancer, feeling as though cancer isn't real, and consciously suppressing thoughts related to cancer.⁶ Although many cancer patients and survivors experience symptoms of avoidance, not all will meet the three out of seven specific avoidance symptoms required for a PTSD diagnosis. It is difficult to avoid reminders of the stressor as cancer treatment involves routine surveillance and follow-up. Finally, hypervigilance and physiological arousal are common given the concern with somatic function and possible recurrence and have been reported in up to 25% of survivors,^{3,6} yet it is difficult to assess for this symptom cluster because some symptoms (e.g., poor concentration, insomnia) may be due to treatment or medication side effects.

PTSD Course

Given the uniqueness of cancer as a PTSD trigger, with its medical comorbidities and need for routine surveillance, it is clear how cancer-related PTSD can have a chronic course. Periodic reexposure to the cancer experience occurs through treatment or surveillance and can decrease cognitive processing of the trauma. Two theories exist concerning the longitudinal course of cancer-related PTSD. The stress evaporation model posits that PTSD symptoms fade over time, whereas the residual stress model argues that stressors can produce chronic, lasting changes.⁸ Andrykowski et al. evaluated 46 women with cancer-related PTSD 1 year after breast cancer treatment and found no significant improvements in PTSD symptoms between the initial and follow-up interviews; rather, 13% of the participants reported an increase in PTSD symptoms.⁸ Similarly, Kornblith et al. examined the long-term adjustment of 153 women who were early-stage breast cancer survivors 20 years after the completion of chemotherapy and found that 15% had two or more PTSD symptoms that were moderately or extremely bothersome.⁹ Both studies highlighted the chronicity of cancer-related PTSD.

Risk and Protective Factors for Cancer-Related PTSD

Part of the successful clinical management of cancer-related PTSD is identifying risk factors so that treatment can be tailored to strengthen protective factors and compensate for risk factors, as outlined in Table 2. The presence of a pre-existing psychiatric disorder before the cancer diagnosis increases the likelihood of developing cancer-related PTSD by as much as 14 times; prior trauma history is also a well known predictor of cancer-related traumatic stress.¹⁰ Younger age is associated with cancer-related PTSD because the threat of death is often greater and treatment may be more aggressive in younger patients.¹¹ In contrast, older age may be associated with resilience to cancer-related PTSD, as prior life experiences of facing losses and challenges provide pathways to adaptive coping.¹¹ Some literature suggests that individuals with lower socioeconomic status and less education are also at greater risk, yet this relationship may be due to an increased likelihood of prior trauma exposure.³ Individual temperamental traits and avoidant coping styles have the potential to feed into PTSD symptoms of avoidance and arousal. In addition to individual risk factors for developing cancer-related PTSD, the stage of cancer, how recently cancer treatment was received, and recurrence of cancer also influence the risk of developing cancer-related traumatic distress.³

Utilization of Mental Health Services by Cancer Survivors

Although research has shown that cancer-related PTSD often has a chronic course, studies have also demonstrated that mental health services are grossly underutilized by this population.² Only about 10% of cancer patients reporting levels of distress receive psychosocial therapy.¹² Kadan-Lottick et al. interviewed 251 patients with advanced cancer and found that 55% of those with a major psychiatric disorder did not receive a psychiatric referral, yet 90% of all participants said they would seek psychiatric help if they were aware they had an emotional problem.⁴ The cancer patients who were most likely to receive referrals for mental health services were those who had had a discussion about mental health services with a health professional prior to their cancer diagnosis.⁴

Mental Health Management of Cancer Survivors

The role of the mental health clinician in the management of cancer-related PTSD is to have a positive impact on health and mental health outcomes by helping the patient better handle the disabling symptoms of PTSD. By identifying cancer-related psychological sequelae early in the follow-up care of cancer patients, those who are most vulnerable to adjustment problems can be identified and referred for adequate mental health care,⁹ as untreated distress leads to increased levels of pain, greater desire to die, greater disability rates, less participation in end-of-life care, impaired psychosocial functioning of caregivers,⁴ and nonadherence to treatment.¹² It is important to identify stress responses and the risk and protective factors discussed above since early psychosocial and pharmacological interventions are effective.¹³

Mental Health Assessment

Clinicians need the skills to recognize and treat PTSD and other psychiatric disorders in this patient population. There are several widely accepted screening and assessment instruments for PTSD, such as the Primary Care PTSD Screen (PC-PTSD)¹⁴ and the PTSD Checklist (PCL),¹⁵ but none is adequately validated for use in patients with cancer. However, a clinician may screen for PTSD in the outpatient setting with an introductory question such as, *"I'm aware that 3 months ago you finished your cancer treatment. How is that affecting you?"* One can then probe deeper by responding, *"Some people report thinking about cancer without meaning to, having nightmares related to the cancer experience, or even avoiding thoughts and feelings associated with the entire cancer diagnosis, treatment, and possibility of recurrence. Has this ever happened to you?"* These questions can be easily utilized in the outpatient mental health setting to screen for cancer-related PTSD. In addition, developing an optimal treatment plan for a patient with a cancer diagnosis involves creating a biopsychosocial formulation that can form the basis for a comprehensive psychosocial and spiritual assessment. Components of such a formulation are shown in Table 3.

Optimal care for patients with life-threatening illnesses requires a willingness to address patients' central concerns, including concerns about their psychological well-being and desire to find meaning in their lives.¹⁶ Almost all patients confronted with a life-threatening illness such as cancer encounter physical, spiritual, psychological, and social challenges.¹⁶ Completion of a psychosocial and spiritual assessment allows the clinician to identify strengths and vulnerabilities the patient brings to the illness experience. A detailed assessment allows the clinician to support productive coping, identify those at risk for difficulties, and strengthen areas of weaknesses. The clinician should strive to identify the patient's beliefs about why the illness has occurred in order to enhance posttraumatic growth. Previous coping styles in response to difficult times and psychiatric vulnerabilities should be identified, since these are often indicators of how the patient will respond to the cancer diagnosis and treatment. Similarly, identifying current stressors and areas of limited support allow the clinician to provide targeted treatment without taxing an already difficult situation.¹⁶

Mental Health Treatment

Once a psychodiagnostic, psychosocial, and spiritual assessment is complete, the clinician must consider the timing of treatment for cancer-related PTSD. Psychiatric treatment demands should be minimized during phases of intense medical treatment. During acute phases of active medical treatment, relaxation exercises, guided imagery, controlled breathing, and distraction techniques may be introduced to help the patient cope with the adverse effects of treatment.³ When the patients are no longer undergoing active medical treatment, adaptive coping should be emphasized through cognitive restructuring to help patients resolve ongoing problems, reevaluate life goals, and manage their knowledge of their cancer prognosis.³ Group and individual psychotherapy, psychoeducation, and pharmacological management have all been found effective in treating cancer-related PTSD in cancer survivors.¹²

More specific treatment modalities have been studied in cancer-related PTSD to decrease depression, improve quality of life, and minimize somatic symptoms. Supportive group psychotherapy has been found effective in decreasing intrusive symptoms^{12,13} and improving quality of life, as well as preventing depression in advanced cancer patients.¹⁷ Individual therapy may also be used as part of treatment. As few as four individual therapy sessions with a focus on meaning-making have been found helpful in improving self-esteem, optimism, and self-efficacy in cancer patients.¹⁷ Cognitive-behavioral therapy (CBT) provided to patients with prostate cancer has been found to lead to improvement in quality of life after as few as 10 sessions.¹⁷ Morbidity and somatic symptoms may also be targets of psychiatric treatment; CBT to promote healthy lifestyle choices in breast cancer survivors led to significant decreases in weight, body mass index, and lipoprotein profile.¹⁷ Results of a meta-analysis of 37 treatment studies favored therapies that are at least 12 weeks long and emphasized the importance of a strong therapeutic alliance.¹⁸

Mental health interventions that address the potential for posttraumatic growth and the ability to find the meaning and value of trauma in one's life are also important. Finding value or meaning in a distressing event may be psychologically protective and can influence the long-term occurrence of depressive symptoms and improve quality of life. Posttraumatic growth can enhance interpersonal relationships, increase appreciation for life, improve spirituality, and increase personal strength. As many as 60%-95% of cancer survivors report posttraumatic growth.¹⁹ In individuals with posttraumatic stress symptoms, posttraumatic growth reflects a cognitive adaptation process whereby they are enabled to positively reinterpret their cancer experience by reframing the experience as a transition and perceive potential benefits (new relationships, new possibilities, personal strength, greater appreciation for life). Those found to have the highest levels of posttraumatic growth are those with optimism and greater psychological well-being.¹² Morrill et al. examined the interaction of posttraumatic growth with posttraumatic stress symptoms in predicting depressive symptoms and quality of life.¹⁹ In women previously treated for breast cancer, posttraumatic growth was found to decrease posttraumatic depressive symptoms and improve quality of life.

To date, no studies of psychopharmacological management of cancer-related PTSD have been published. Only two pharmacologic agents are approved by the U.S. Food and Drug Administration for the treatment of PTSD, the selective serotonin reuptake inhibitors (SSRIs) paroxetine and sertraline.²⁰ The American Psychiatric Association (APA) 2004 *Treatment Guidelines for PTSD* recommend standard adult doses of 50-200 mg/day of sertraline and 20-60 mg/day of paroxetine for the treatment of PTSD.^{20,21} The prescribing psychiatrist should be mindful of potential drug-drug interactions amongst psychotropics and cancer agents (e.g., between paroxetine and tamoxifen). However, fewer than 50% of patients with PTSD improve when treated with SSRIs,²⁰ and the APA Treatment Guidelines indicate that psychotherapy remains the most effective treatment for PTSD.^{21,22}

Future Research Directions

The limitations of research on cancer-related PTSD highlight the need for future work in this area. Systematic studies on cancer-related PTSD would illustrate the influence of stressors

on the cancer experience that may precipitate the development of PTSD, such as prior risk factors, cancer type, stage of cancer, and cancer treatment. Such knowledge could be used to identify and screen those most at risk for developing PTSD. With advances in imaging, new information on the neurobiology of PTSD and its treatment implications can be applied to this patient population with its unique pharmacological issues. Finally, such research could pave the way for empirically based guidelines for the evaluation and management of cancer-related PTSD.

Case Analysis

Mr. M clearly fits the clinical presentation of cancer-related PTSD. He responded to his cancer diagnosis with a fear of death, bodily injury, or bodily harm. His level of distress was such that it caused functional impairment necessitating an inpatient psychiatric admission for suicidality. Once he was psychiatrically stabilized, Mr. M continued to experience intrusive thoughts, a sense of foreshortened future, and numbing and hyperarousal symptoms for up to 18 months after his cancer diagnosis. Although he was being treated by a psychiatrist and his PTSD symptoms were noted, psychiatric management focused on his major depressive disorder and may have underrecognized the importance of PTSD. Mr. M illustrates the importance of assessing for cancer-related PTSD in patients who have been diagnosed with and treated for cancer, as well as re-assessing for PTSD symptoms over time, particularly when patients present with distress secondary to their diagnosis.

Conclusion

Following a diagnosis of and treatment for cancer, it is important for the mental health clinician to assess for the presence of cancer-related PTSD, along with broader psychiatric, psychological, social, and spiritual concerns related to cancer. Mental health interventions that specifically address cancer-related PTSD may improve the cancer patient's recovery and adaptation over time. All cancer patients deserve optimal therapy for psychiatric disorders, especially to enhance their quality of life.

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Case Presentation

During the course of a routine colonoscopy, Mr. M, a 56-year-old man with a history of major depressive disorder, was diagnosed with colon cancer; initial staging was uncertain but was estimated to be Stage II or Stage III. Three months after his initial diagnosis, repeat workup showed that his cancer had progressed and surgical intervention was recommended. As Mr. M was regularly seen by psychiatry for management of his major depressive disorder, he was assessed for his level of distress when he disclosed his cancer diagnosis and progression. When asked about the time of his diagnosis, he stated he did not believe he might die or be less physically whole, but that he did not feel significant “fear, helplessness, or horror.” Subsequently, Mr. M had a hemicolectomy. After medical discharge, and while awaiting follow-up with gastroenterology to receive a final staging and treatment plan, Mr. M began experiencing disturbing memories, thoughts, images, and dreams about cancer to a moderate degree, as well as avoidance about discussing his cancer experience. Shortly thereafter, he was admitted to an inpatient psychiatric unit for suicidal ideation and increasing anxiety triggered by excessive worries about possible chemotherapy. He reported feeling unable to cope with his cancer; his history of major depressive disorder and the uncertainty of his treatment and prognosis appeared to put him at risk for PTSD. Mr. M was stabilized on a mood stabilizer and an antipsychotic medication and discharged home. After discharge, he continued to receive mental health services and to feel anxious. His gastroenterologist determined that his cancer was stage II, and he recommended no chemotherapy but surveillance colonoscopy. At 12 months after his diagnosis and with his cancer in remission, Mr. M stated he was experiencing only minimal disturbing memories related to cancer, although he did have a sense of a foreshortened future and was worried about recurrence. His ongoing mental health treatment focused on depression, anxiety, and practical concerns regarding finances and housing. When Mr. M was re-assessed 18 months after diagnosis, his cancer-related PTSD symptoms had again increased, and he was experiencing significant numbing and hyperarousal.¹

¹This case is based on an actual case with some facts changed to protect patient privacy and provide illustration for the clinician.

Table 1
Distinctive features of cancer-related PTSD

Stressor	<ul style="list-style-type: none"> • Complex, protracted nature of cancer • Diagnosis, waiting for results, waiting for surgery • Noxious treatment • Injury/loss of integrity is not immediate but threatened • Outcome is based on what will happen in future
Chronicity of threat	<ul style="list-style-type: none"> • Cumulative response to multiple traumatic experiences
Triggers	<ul style="list-style-type: none"> • Diagnosis • Treatment procedures • Witness adverse course of other patients • Routine follow-up
Unpredictable course	<ul style="list-style-type: none"> • Remission interrupted by acute episodes
Internality of threat	<ul style="list-style-type: none"> • Perceived inescapability • Bodily signs as persistent reminders

Table 2
Risk factors for developing cancer-related PTSD

Individual factors	Cancer factors
<ul style="list-style-type: none"> • Pre-cancer psychiatric disorder • Younger age • Female gender • History of negative life stressors • Emotionally reactive temperament • Avoidant coping style • Low socioeconomic status • Poor social support • High dissatisfaction with medical care • Loss of physical functioning 	<ul style="list-style-type: none"> • Advanced stage • More than one cancer recurrence • Immediacy of cancer treatment at the time of assessment for PTSD • More invasive, painful, or disfiguring type of cancer

Table 3
Biopsychosocial formulation as a basis for a comprehensive assessment*

Biopsychosocial component	Factors	Goal of screening question
Biological	Cancer site, stage, prognosis, and other comorbid medical conditions	History of medical illness
Psychiatric	Psychiatric history	History of mental illness
	Presence of PTSD symptoms	Evaluate for intrusive thoughts, avoidance, or hypervigilance
Psychological	Coping style	Evaluate previous coping styles and commonly used defense mechanisms
	Patient-physician relationship	Satisfaction with medical care; strong, trusting relationship with provider
Spiritual/existential	Spiritual resources	Role of faith/spirituality
	Meaning of illness	Patient's belief of why illness is happening in the context of his or her life story
Social	Social support	Identify areas of limited support where additional support is needed, as well as strong areas of support the individual can access
	Stressors	Largest current stress

* Adapted with permission from Block 2001¹⁶