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SHORT COMMUNICATION

Aspects of Post-Traumatic Stress Disorder symptomatology in patients with breast cancer: a review of prevalence, risk and mediating factors

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ABSTRACT

It is widely accepted that a cancer diagnosis is a stressful and often traumatic experience for patients. Stress as a psychological side-effect of diagnosis has been well-researched. However, it is also possible that the life changing and potentially life-threatening aspects of disease may lead to symptoms of Post-Traumatic Stress Disorder (PTSD), including heightened anxiety, intrusive and distressing thoughts, avoidance of reminders of the trauma and sleeping disturbances. These symptoms may be of short duration but studies show that is possible for patients to live with PTSD for years after diagnosis and treatment. Even if not all the criteria for a full PTSD diagnosis are present, subthreshold or subsyndromal PTSD has been shown to cause significant distress and affect the quality of life of breast cancer patients. Given that with earlier diagnoses and ever more effective treatment interventions, the number of women who survive cancer and whose survival intervals are longer, identification, monitoring and treatment of patients living with PTSD becomes ever more important.

Keywords: Breast cancer, distress, PTSD, stress, subsyndromal PTSD

1. INTRODUCTION

Although psychological distress, in the form of depression and anxiety are known to be prevalent amongst the cancer patient population in general, the incidence of PTSD among these patients is less well documented and the course and trajectory of PTSD symptoms over time is an aspect of the disease that has not been well researched [1]. In addition, there has been a paucity of studies regarding the presence and effects of subsyndromal PTSD experienced by these patients [2]. Breast cancer is widely studied as it is currently the most common cancer in women worldwide, both in developed and less developed countries. Its incidence is increasing, particularly in developing countries where the majority of new cases are diagnosed in the late stages of disease. The WHO estimated that over 508 000 women died in 2011 due to breast cancer [3]. Although breast cancer is widely considered to be a disease of the developed world, almost 50% of breast cancer cases and 58% of deaths occur in less developed countries [4].

Better diagnostic tools and improved oncology treatments have resulted in more cancer patients, including those patients with breast cancer, surviving and having to live with the cognitive, physiological and psychological consequences of disease. Psychological sequelae may include the persistent, distressing symptoms of increased psychological sensitivity and arousal associated with the diagnostic criteria of PTSD such as:

- difficulty in falling or staying asleep;
- irritability or outbursts of anger;
- difficulty in concentrating;
- hyper-vigilance;
- exaggerated startle response

Patients experiencing these symptoms may be referred for psychotherapeutic intervention where various types of trauma-focused cognitive-behavioral therapy (CBT) have been found to be effective. CBT typically includes aspects of cognitive therapy, exposure, and coping skills training [5]. In terms of a pharmacotherapeutic framework, evidence suggests that specific selective serotonin reuptake inhibitors (SSRI's) and a particular serotonin norepinephrine reuptake inhibitor (SNRI) venlafaxine, are effective in treating patients with PTSD [6].

2. CANCER AS A TRAUMATIC STRESSOR

Receiving a cancer diagnosis and experiencing the ensuing treatment can constitute a series of stressors for the patient and psychological distress is acknowledged to be more prevalent in this population [1, 7]. From detection to screening procedures to staging and treatment planning, it may be experienced as an interval of high anxiety which challenges the individual's assumptions of control, sense of predictability and invulnerability. Treatments such as chemotherapy, radiotherapy and hormonal therapy and their associated side-effects may also be experienced as unfamiliar and highly stressful [8]. Even after completion of successful treatment, distress may persist [9]. According to the Diagnostic and Statistical Manual of Mental Disorders DSM-IV [10], PTSD is a psychiatric disorder that may occur when an individual experiences, witnesses, or encounters a traumatic event such as threatened death, serious injury, or anything that puts a person's life under threat. Based on studies citing reactions similar to those of traumatic stress, such as intrusive ideation, reactivity to reminders, numbness and hyper-arousal in cancer patients, in 1994 the DSM-IV expanded the diagnostic

criteria for PTSD to include the diagnosis and treatment of a life-threatening illness as a potential stressor that could bring about PTSD in such patients [10]. In order to receive a PTSD diagnosis, a patient must meet Criterion A (exposure to the traumatic event and report at least one re-experiencing symptom (Criterion B), three avoidance/numbing symptoms (Criterion C), and two arousal symptoms (Criterion E). However, as of 2013, the most recent version of the DSM-V [11] maintains that the diagnosis of a non-immediate life-threatening disease, no matter how severe, is no longer considered to be traumatic event. To qualify as a medically-based trauma, an event must be sudden and catastrophic such as waking during surgery [11, 12].

By contrast to many other traumatic events, cancer is associated with a threat of long duration and with future-oriented, realistic fears, such as the fear of recurrence, disease progression and death. Although these are distinctive features of cancer as a traumatic event, symptoms that cancer patients and victims of different traumas experience are similar. They include among others recurrent, intrusive and distressing recollections, difficulties with concentration and changes in sleeping pattern [5].

3. PREVALENCE OF BREAST CANCER-RELATED PTSD

PTSD presents as a multifactorial syndrome. In the literature, a great deal of discrepancy exists regarding the prevalence of PTSD in breast cancer patients, which relates to the diagnostic criteria applied, the instruments used in the various studies and the disease stages at which these studies were conducted. Recent studies have demonstrated that the prevalence of PTSD diagnoses in breast cancer is higher than that in colorectal, head and neck, and prostate cancers but lower than that in brain, gynecological, and hematological cancers [13]. Women have been shown to suffer PTSD more than men, and this may be due to socialized gender differences, differences in levels of resistance, or neurobiological responses to traumatic stimuli [12]. Much of the research quoted in the literature has demonstrated that the majority of women diagnosed with breast cancer may develop symptoms of post-traumatic stress in the months following their diagnosis [5]. Recent research yields data ranging from clinically significant levels of PTSD symptoms from 7.3% to 13.8% depending on the assessment and scoring criteria used [6]. Another recent study found that 1 in 4 women newly diagnosed with breast cancer experienced symptoms of PTSD [1], whilst a 2016 study suggests that 9.6% of breast cancer patients will develop PTSD [12]. A 2008 study found that women diagnosed with breast cancer showed clear symptoms of PTSD, such as avoidance of breast cancer stimuli and intrusive thoughts [14]. However, there is a great deal of disparity in the literature regarding the onset and duration of symptoms and indeed, the nature of the symptoms experienced by these patients.

4. THE COURSE OF PTSD IN BREAST CANCER PATIENTS

It has been observed that psychiatric syndromes such as depression, anxiety and symptoms of PTSD appear to be most prominent at specific junctures in the course of the disease. In some patients this may occur at diagnosis and in others upon the completion of active treatment when medical scrutiny becomes less intense. Recurrence and metastases may also bring about psychological distress [15]. There is less consensus and a paucity of data in the literature regarding specifically the course and trajectory of PTSD in breast cancer patients, primarily due to the variety of assessment methods and screening scoring methods utilized. The

different disease phases and stages at which prevalence studies are carried out are confounding factors as is the stringency of the diagnostic criteria of PTSD applied [5, 13, 16]. Some studies differentiate between Post Traumatic Stress Symptoms (PTSS) as distinct from PTSD as a diagnosis [17].

Several studies show evidence for a decline in symptoms in most patients as time after diagnosis and treatment elapses [2, 7], whilst other research suggest an increase as time passes [8]. Further studies demonstrate fluctuation in symptoms for the first several years following diagnosis. Delayed-onset cancer-related PTSD has been shown to be uncommon [8]. However, delayed-onset PTSD is almost always preceded by subsyndromal PTSD symptoms [18]. A 2016 study found that 82.5% of breast cancer patients in their study showed symptoms of PTSD between diagnosis and the beginning of treatment. Of these, 7.3% continued to experience symptoms at 1 year. In this study only 2% were diagnosed with full PTSD a year after the initial diagnosis of breast cancer [5]. A study undertaken in 2014 found that 51.5% of newly diagnosed breast cancer patients exhibited moderate to severe symptoms of PTSD which decreased over a one-year period to 33.5% [7]. Another study found that 23% of newly diagnosed women experienced symptoms of PTSD which decreased over time. At 4 months post-diagnosis, 16.5% were experiencing symptoms of PTSD and a later follow-up yielded a result of 12.6% [1]. Other research showed PTSD in 18.5% of breast cancer patients post-diagnosis, with a decrease at 6 months to between 11.2-16.3% [19].

A 2018 study found that 21.6% of cancer patients experienced PTSD for several months after diagnosis with this rate decreasing to 6.1% after 4 years post-treatment. However, an estimated 33% of those patients initially diagnosed with PTSD showed similar or worsening symptoms at 4 years. They found that breast cancer patients were 3.7 times less likely to develop PTSD at the 6 month interval and posit that this may be due to the fact that breast cancer is a common malignancy and that there may be more resources and support programmes for these patients [2]. The results of a 2011 study suggest that 7% of their sample of breast cancer patients showed full symptoms of PTSD at 6 weeks post diagnosis but at one year follow-up this figure had risen to 13%. They observed significant changes in all PTSD diagnostic criteria clusters, namely intrusion, arousal and avoidance which in most cases showed a decrease in the symptom level [20].

Conversely, a 2012 study found low rates of PTSD in a sample of 4- to 12-month post-treatment women: 5% post diagnosis using broad criteria and 3% if applying more stringent diagnostic criteria for PTSD. The authors ascribe this to the possibility that the breast cancer experience may not have the immediate threat to life or physical integrity that external trauma stimuli present [16]. An earlier study undertaken in 2008 found that at 18 months post-diagnosis, 16.2% of breast cancer patients were experiencing PTSD, 6.7% experienced subsyndromal PTSD and 63.5% were experiencing no symptoms of PTSD. They further found that the patients experiencing PTSD were distinguished by having been exposed to violent trauma and anxiety disorders prior to the cancer diagnosis whereas the subsyndromal patients had not. However, the negative effect of the trauma symptoms of the subsyndromal group on quality of life was equivalent to that of the PTSD patients. They also found that breast cancer patients with PTSD are more likely to be experiencing a comorbid mood or anxiety disorder [21]. A low prevalence of PTSD in a sample of breast cancer patients was found in a 2004 study. Of the sample, 41% experienced a response of fear and helplessness to a diagnosis of cancer but only 4% were diagnosed with PTSD. They found that psychological distress was common but was a poor

predictor of PTSD. Their recommendations were that using a trauma framework to identify the breast cancer experience of the majority of patients may be misleading [22].

Generally, most PTSD symptoms occur shortly after the trauma and decline or disappear over time. In some patients, however, they may persist long-term, up to 20 years after the diagnosis, or to have a late onset [5].

5. SUBSYNDROMAL PTSD IN BREAST CANCER

Subsyndromal symptomatology describes the presence of some symptoms of PTSD but falls short of the full diagnostic criteria for PTSD as described in the DSM-IV. Symptoms that do not meet full PTSD criteria are common and often clinically significant. Individuals with these symptoms sometimes have been characterized as having subthreshold PTSD, but no consensus exists on the optimal definition of this term. Subsyndromal PTSD is variously defined as

- meeting at least one symptom of each DSM Criterion
- all required symptoms relating to re-experiencing and one other DSM Criterion
- all required symptoms of re-experiencing and hyperarousal and at least one symptom of avoidance
- all required symptoms of at least one DSM Criterion [23].

The more recent DSM-V has raised the number of symptom criteria for a diagnosis from three to four so further definitions of subsyndromal PTSD may arise. Some studies do not refer to PTSD but rather adopt the term post-traumatic stress symptoms (PTSS) in an effort to distinguish between PTSD as the disorder characterized by the accepted diagnostic criteria of the DSM-IV and the differential responses of patients to a diagnosis of breast cancer in terms of one or a subset or cluster, of diagnostic symptoms [17]. The prevalence of PTSD symptoms themselves, without all criteria for a DSM diagnosis being met, may be greater than 75% in breast cancer patients, and patients scoring high in avoidant symptoms soon after diagnosis may have difficulties in adjustment even 2 years later [9, 13, 21]. According to one study, PTSD symptoms that do not meet the criteria for a diagnosis are found to be common, with up to 36% of women experiencing three or more symptoms [5], whilst another suggests that symptoms of subsyndromal PTSD, such as intrusive thoughts, re-experiencing and avoidance are common in patients in the 2 year period after diagnosis [24]. Further research undertaken found that whilst a full diagnosis of PTSD appears limited to a minority of patients, the symptom of intrusion occurs much more frequently [25]. Higher numbers of subsyndromal PTSD symptoms have been found to correlate with an increased number of comorbid disorders, greater impairment of daily activities and with current suicidal ideation [26].

6. RISK FACTORS FOR PTSD IN BREAST CANCER PATIENTS

Diagnosis at a young age, advanced disease, invasive treatment and a prior history of PTSD or other psychiatric conditions have been found to be risk factors for breast cancer patients [27]. Previous cancer diagnoses within the family of the patient is also a factor strongly associated with a higher prevalence of PTSD [13]. Extent of disease and the nature of the surgery required have also been shown to be risk factors for PTSD as well as subsyndromal PTSD [21]. Low socio-economic status and limited social support have also been found to

predispose the patient to develop PTSD. Dissociative symptoms regarding the disease and persistent and intrusive thoughts or reliving disease-related experiences are at-risk features [8]. Personality has been found to play a role in vulnerability to PTSD. Having a stress-prone personality and utilizing maladaptive coping strategies such as avoidance and anxious preoccupation are significant predictors of PTSD [28]. Recent research has shown that non-Caucasian patients are more likely to be diagnosed with breast cancer-induced PTSD than Caucasian patients with Asian and Black patients most likely to be diagnosed as such [12]. Further observations regarding ethnicity include that prevalence is highest in the Middle East, not in Europe, North America or Asia; the authors suggest that this may be due to the social perception of stressors and the personal illness experience in this population [13]

7. EFFECTS OF PTSD ON QUALITY OF LIFE

Studies have demonstrated that a higher prevalence of PTSD among breast cancer patients is related to lower quality of life and may lead to lower compliance of breast cancer treatment [1]. There is evidence to suggest that patients with PTSD have compromised immune activity, including lower levels of natural killer cell activity and higher levels of inflammatory markers. It may be that a compromised immune system related to PTSD may also lead to cancer progression and shorten length of survival [12]. In addition to the psychological and physiological distress experienced by breast cancer patients with PTSD, studies have also demonstrated that PTSD symptoms exert more effect on perceived cognitive impairment than does chemotherapy. A 2015 study suggests that a degree of cognitive impairment may be experienced by patients prior to the start of treatment and suggest that this is caused by the traumatic stress resulting from the breast cancer diagnosis [29].

8. FACTORS MEDIATING STRESS

Active coping skills are known to correlate with lower levels of stress. Such strategies as fighting spirit, optimism and spirituality have been identified as factors mitigating against the development of symptoms of PTSD and in fact may lead to what is referred to as post-traumatic growth (PTG) [30]. Lack of social support has also been identified as a factor leading to more severe symptoms of PTSD. Social support from various sources within the patient's social network such as family, intimate partners and friends may diversely influence symptoms and treatment compliance. Moreover, high perceived emotional support correlates with improved PTSD treatment response [31]

9. CONCLUSIONS

Although there is a great deal of variation in the literature regarding the severity, the course and the nature of PTSD in breast cancer patients, it appears that there is a significant patient population that experiences some distressing symptoms of PTSD if not all the symptoms which comprise the diagnostic criteria for a full PTSD diagnosis. What is clear from recent research is that even those patients whose symptomatology falls short of the criteria for a full diagnosis still experience significant distress, even to the point of suicidal ideation, It is important for healthcare practitioners in the field of oncology to be aware of the prevalence of

distress and that even if their patients do not meet the criteria for a PTSD diagnosis, not to underestimate the degree of distress and the detrimental physical, psychological, cognitive and social effect of that distress on the patient and her continued health and well-being.

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