

PSYCHOLOGICAL DISTRESS AMONG CANCER PATIENTS ON CHEMOTHERAPY

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ABSTRACT:

Distress has become a major issue in cancer population. Patients may suffer from either physical, psychological distress or both. Cancer patients who are undergoing chemotherapy are more likely to experience psychological distress. This could be due to the negative effects of chemotherapy agents, the uncertainty of post-treatment, and the occurrence of psychosocial problems. As a result, the patient may experience a normal reaction such as sadness or may develop common psychiatric disorders such as depression and anxiety. (*JUMMEC 2010; 13(1): 12-18*)

KEYWORDS: *psychological distress, anxiety, depression, cancer, chemotherapy*

Introduction

Psychological distress is the uncomfortable emotional response to a perceived harmful event such as upon receiving a diagnosis of cancer. "Distress" is the most commonly used term in oncology literature to describe the whole range of negative psychological responses experienced by the cancer patients (1,2). It has been defined as "a multifactorial unpleasant emotional experience of a psychological (cognitive, behavioral, emotional), social, and/or spiritual nature that may interfere with the ability to cope effectively with cancer, its physical symptoms, and its treatment" (3,4).

A lot of research has been done in determining psychological distress in cancer patients (5-7). The prevalence of long-term psychological distress in cancer patients ranges from 20% to 60% (8,9). It is due to the inconsistencies of study methods such as the assessment tools used and study populations included. Among the various types of psychological responses, anxiety and depression received most attention in the studies of cancer patients (10). Anticipatory anxiety and post traumatic stress disorder are the two types of anxiety known to be related to the initiation and consequence of cancer treatment (10-13). Depression encompasses a spectrum that ranges from normal sadness to major depressive disorder. It is an understandable reaction to the fear of cancer and closely linked with the somatic complaints and its treatment (10).

Chemotherapy is the most frequently used treatment modality in cancer patients. It is well-known in causing a wide range of side effects such as nausea and vomiting, tiredness or fatigue, sore mouth, reduced fertility, peripheral neuropathy, and skin problems (14,15). It leads to high level of distress and impacts on the quality of life in cancer patients receiving chemotherapy. As people live longer after treatment for cancer, attention turned to the survivor's quality of life and the distress that they may experience (10). As a result, it is important to monitor the psychological well-being in this group of patients as part of the routine care (4). It can be achieved by increasing the awareness and proficiency of oncology health care provider in recognizing and instituting optimal treatment for psychological distress in cancer patients.

Psychological distress in cancer patients who are on treatment, particularly chemotherapy, need to be determined and understood (16). This is the primary focus of this article.

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Factors Related to Psychological Distress in Cancer Patients

Before we discuss the psychological issues that arise in patients receiving chemotherapy, we need to understand the factors related to psychological distress in these patients. It was described by Andrykowski *et al* that psychological distress is due to the imbalance between two variables (17). The first variable is the "stress and burden" perceived by the cancer patients. It disrupts the psychological health of a patient. The second variable is the "resources" available to cope with the stress and maintain the psychological equilibrium (17). Various patient and disease characteristics that were found to be potential risk factors for psychological distress increase the burden experienced by the cancer patients. For example, the number of stressful life events, previous history of depression and premorbid psychiatric status (18).

Similarly, those factors that reduce the resources to cope with stress will result in higher psychological distress in cancer patients. Marital status, social class and financial status were predictors of high psychological distress which reduce the coping resources of a cancer patient (19, 20). A study on patients who underwent chemotherapy in Malaysia suggested that the prevalence of psychological distress determined by a "distress thermometer" was 51%. Distress was significantly associated with psychosocial problems (16). Another interesting example is the effects of age on emotional distress after a mastectomy. The results revealed that younger women apparently have resources that protect them against depression, although they are more likely to fear the recurrence of the disease and they worry more about disfigurement resulting from surgery. It conflicted with other studies that suggest marriage is protective against distress during stressful life events (21).

Normal Response to the Stress of Cancer

Rasmussen and Elverdam described cancer as a "symbol of disruption of life and time, and the harmony of ordinary life disappears" (22). The psychological response toward a life threatening disease such as cancer varies between individuals. It begins with shock and disbelief, followed by a mix of negative

psychological responses and somatic complaints. Most people will recover from the emotional turmoil and recollect the psychological equilibrium (2,17). The period of recovery relied on the support from family, friends, personal coping skill and physician for those who opt to have a treatment plan that offer hope (2,23).

Some individuals do not fully recover and continue to have a low level of psychological distress which persists for weeks or months. For some, the condition deteriorates and leads to marked physical, psychological and social impairment and subsequently requires psychiatric treatment (17). An early study found that 53% of these patients were adjusting normally to stress; the remaining 47% had apparently clinically psychiatric disorders. Of the 47% with psychiatric disorders, 68% had adjustment disorders with depressed or anxious mood, 13% had a major depression, and 4% had a preexisting anxiety disorder (21).

Anxiety

Anxiety is well documented in patients with the diagnosis of cancer and the initiation of treatment (10-13). Patients are confronted with the worry of death at the time of diagnosis. It leads to a substantial level of anxiety. Gradually, it is followed by the fear of recurrence, disrupted belief of life expectancy and loss of focus in living (22, 24-28). The initiation of treatment such as chemotherapy add further emotional burden to the patients, which attributed to the potential adverse effects. There are two specific anxiety disorders, namely anticipatory anxiety and post-traumatic stress disorder (PTSD), which are believed to be closely linked with the treatment of cancer that significantly affect the patient's functioning, compliance and quality of life (10-13, 22, 24, 29).

Nausea and vomiting are common side effects of chemotherapy. It leads to several physical complaints such as loss of appetite and weight. The subsequent development of psychological nausea and vomiting which is known as anticipatory nausea and vomiting (ANV) is widely studied (10-13, 30-37). The common explanation for ANV is conceptualized as a learning process (38). The stimulation during drug administration followed by the drug related side effects triggers a conditioning process. As a result,

nausea and vomit are experienced during the next cycle of treatment even before drug administration. Autonomic reactivity and conditionability of an individual play distinct roles in determining the risk of developing ANV during chemotherapy (36). Patients with trait anxiety and post-treatment nervousness have a higher risk of ANV (35). Other predicting factors for ANV found in previous studies are younger age, history of susceptibility to motion sickness and history of side effects from previous chemotherapy (37). Understanding of this concept is important for health care providers who provide screening and treatment of ANV in cancer patients who are receiving chemotherapy.

Another specific type of anxiety that received much attention in the study of cancer patients is PTSD. The reported prevalence ranges from 18-80% depending on the time period of study and severity of the disorder (39-41). A study that used stringent diagnosis criteria for cancer related PTSD in breast cancer patients after completion of treatment shown that the prevalence rate was as low as 3% (42). However, before considering the biological explanation for PTSD in cancer patients, we need to accept that the diagnosis of cancer or treatment resembles a typical type of event or trauma that gives rise to PTSD (24). An abrupt disclosure of the diagnosis of cancer and the administration of treatment closely represent a traumatic event comparable with the disease itself which is an ongoing stress for an individual.

Many studies, which look into the underlying neuroendocrinologic processes that lead to PTSD in cancer patients has been conducted (43-45). Previous studies found that there were corticotrophin releasing factor (CRF) hypersecretion with relatively low level of adrenocorticotrophic hormone (ACTH) and cortisol in cancer related PTSD. Negative feedback inhibition was hypothesized by Yehuda to explain this hypothalamic-pituitary-adrenal (HPA) alteration in PTSD (43). Another interesting finding was the lower amygdala volume in PTSD patients (44-45). These biological changes were suggested to trigger the emotional response and persistent of anxiousness in patients with PTSD. The patients re-experience and have persistent intrusive thoughts or memories of the traumatic events. The knowledge regarding

the causative process of PTSD is helpful in the development of treatment for this group of patients.

Depression

Cancer is recognized as a significant psychosocial stressor and predisposes to depression. Many researchers have assessed depression in cancer patients in the past decades and the reported prevalence varies significantly because of the varying diagnosis criteria, measurement or rating scales used and differences in the study populations (21, 46-49). Based on the study by Derogatis *et al*, 6.1% of the cancer patients met the criteria for major depressive disorder (21). According to the review article by Mc Daniel *et al*, the figure was higher for cancer inpatients which is 8% and 15 to 36% for all depressive disorders (46). The prevalence also determined by the site of cancer. It is highly prevalent in oropharyngeal and pancreatic cancer but less common in gynaecological and lymphoid cancer (50).

There was a long standing debate on the diagnosis of depression in cancer patients (21). It is due to the overlapping of somatic symptoms in depression with the physiological symptoms in cancer and its treatment such as fatigue, loss of appetite and weight, sleep difficulties, poor memories and concentration. This group of symptoms was referred to as "sickness syndrome" by the recent researchers and believed to be caused by the pathophysiological process of the cancer and its treatment (51, 52). It involved the activation of immune system and proinflammatory cytokine system and lead to depression in cancer patients (51-53).

Increased level of stress hormone, cortisol and hyperactivity of the stress system were another hypothesis suggested as the pathophysiological process of depression (24,54). It is associated with the progress of cancer and affects the treatment outcome by lowering the defense mechanisms (55). It is recognized that the treatment of depression is beneficial regardless of the etiology of the "sickness syndrome" (56).

In addition, arousal (alertness vs boredom) and valence (positive vs negative) are two dimension of emotion that could predict fatigue and depression in

patients undergoing chemotherapy (57-60). This was the pathophysiologic explanation that depression is associated with stress response system.

Depressed patients were more likely to develop anxiety, fatigue and insomnia. It leads to non compliance, refusal of treatment, poor quality of life and shortened life expectancy (61, 62). A study shown that only 51.3% of breast cancer patients with concomitant depression accepted and received the proposed chemotherapy as comparing to the 92.2% of the control group (63).

It is often reported that the recognition of psychiatric need in cancer patients is poor among health care providers. There were fewer than half of the patients with cancer related depression symptoms were offered treatment (64-67). Health care providers do not prioritize mental health issues and lack of effective communication with patients is the two main reasons of under-recognition and under-treatment of depression in cancer patients (64, 65). Depression is a progressive condition and it responses better to treatment at the earliest phase because of the nature of the alteration in the neurological process (68, 69). Oncology health care providers should be more proficient in psychosocial assessment and able to detect subtle signs, monitor risk factors and reduce depression in cancer patients. Adequate management of depression required the consistent and informed involvement of health care providers and caregivers (69). This will improve the quality of care and reduce the psychological distress in cancer patients.

Conclusions

The significant experience of psychological distress among cancer patients undergoing chemotherapy should not be left unrecognized and untreated. Factors that concern the patients should be addressed accordingly, and in doing so, there may be a need for a multidisciplinary approach. Therefore, the role of the mental health team in managing cancer patients is very important.

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