Review Article

Psychiatric Morbidity and psychotherapeutic interventions in cancer survivors

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Abstract : *With ever increasing number of cancer patients and modalities of treatment for them, a novel population is fast increasing. This is the population of cancer survivors, with its own specific set of psychological problems. This review tends to explore in detail, psychiatric morbidity amongst this population and its impact on their lives. Subsequent to this, various psychotherapeutic interventions for this population are discussed systematically, ranging from 'Educational' to 'Mind-Body-Spiritual' interventions and the current evidence for their efficacy is reviewed. Finally, overall efficacy of these interventions in the lives of cancer survivors and their place in their treatment plan is discussed.*

Keywords: Cancer survivors, Psychiatric morbidity, Group therapy, Cognitive behaviour Therapy

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INTRODUCTION

Though 'Father of medicine', Hippocrates (460-370 B.C.) is credited to the origin of term 'Carcinoma' which later Celsus (28-50 B.C.) termed 'Cancer', the oldest description of cancer goes way back to 1600 B.C.[1] Throughout the medical history of mankind, we have records available which provide evidence of diseases which we now know were cancer.

Cancer is a leading cause of death worldwide: it accounted for 7.9 million deaths (around 13% of all deaths) in 2007. Deaths from cancer worldwide are projected to continue rising, with an estimated 12 million deaths in 2030.[2] 12.7 million new cases of cancer were detected worldwide in year 2008 with .95 million or 9.5 lakh new cases in India alone.[3] It is projected that by year 2015 India will have around 10 lakh new cases every year with prevalence of 25 lakh cases at any point of time. The cumulative risk of cancer would be 1 in 9 for males and about 1 in 8 for females. The number of deaths due to cancer would be about 6.5 lakh per year.[4] This also suggests that around 3.5 lakh cases are added to the pool of cancer survivors every year.

The advancement in medical field over the decades has changed the concept of cancer from synonym of 'death' to 'fight for survival'. It has reduced mortality in significant number of cases and has at least delayed it in many others. This has created a novel group of individuals known as 'Cancer Survivors'. Though definition for cancer survivors is many, WHO defines them as those patients who having had cancer are, following treatment, now cured of the disease. Where cure is defined as the attainment of normal life expectancy and has three important components: recovery from all evidence of disease (complete remission); attainment of a stage of minimal or no risk of recurrence or relapse; restoration of functional health (physical, developmental and psychosocial).[5] However this definition rules out any interventions for cancer survivors as they are deemed to be completely fit. The definition given by Mullan is 'someone who has received the diagnosis of a potentially fatal form of cancer and is therefore forced to face his or her own mortality.'[6] This is a broader definition encompassing more patients and their problems.

PSYCHIATRIC DISORDERS

About half of all cancer patients have been found to be having mental disorders in various studies. Studies of leukaemia/ lymphoma survivors and breast cancer patients, using the Brief Psychiatric Symptom Inventory, showed a level of psychiatric symptomatology one standard deviation greater than the norm, or halfway between normal controls and psychiatric patients. Many subsequent studies confirm this association. Data from an American cohort of 9,535 long-term survivors of childhood cancer showed a 43.6 per cent incidence of self-reported impairment in one or more of six domains: general health, mental health, functional impairment, activity limitations, pains resulting from cancer treatment, and anxiety or fears directly related to cancer and cancer treatment.[7]

Adjustment disorders with depressed mood, anxious mood, and mixed emotional features represent the largest group of Axis I diagnoses found in cancer patients (68%).[8] The prevalence of anxiety disorders has been estimated to be 6% to 23%.[9] In a study of 1083 breast cancer survivors followed after approximately 4 years of diagnosis, 38 % had moderate to severe anxiety, 22 % had moderate to high depression. Overall psychological co morbidity was 43% and 26% for a possible and probable psychiatric disorder.[10] Similar findings of anxiety and depression were echoed by another study on breast cancer patients with 18 month follow up.[11]

Studies have also documented the presence of symptoms meeting the criteria for post-traumatic stress disorder (PTSD) and post-traumatic stress symptoms (PTSS) in adults and children with cancer, as well as in the parents of children diagnosed with the illness.[12,13] Indeed, experiencing a life-threatening medical illness or observing it in another to whom one is close can be a qualifying event for PTSD according to the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR).[14]

Even patients who do not develop clinical syndromes may experience worries, fears, and other forms of psychological stress that cause them significant distress. Chronic illness can bring about guilt, feelings of loss of control, anger, sadness, confusion, and fear.[15,16] Anxiety, mood disturbance, fear of recurrence, concerns about body image, and communication and other problems with family members are common in cancer patients as well.[17] Patients may also experience more generalized worry; fear for the future; inability to make plans; uncertainty and a heightened sense of vulnerability; and other worries, such as about the possible development of a second cancer, changes in sexual function and reproductive ability, and changes in one's role within the family and other relationships.[18] Moreover, cancer patients can face spiritual and existential issues involving their faith, their perceived relationship with God, and the possibility and meaning of death. Some cancer survivors report feelings of anger, isolation, and diminished self-esteem in response to such stress.[19]

PHYSICAL PROBLEMS

Fatigue:

Fatigue is a pervasive and vexing problem in individuals with cancer. It adds considerably to suffering and exists across all types and stages of the disease. It has been found to be a problem before, during, and after treatment, sometimes continuing long after treatment has ended, even in those believed to be disease-free. Cancer-related fatigue (CRF) has been reported by up to

40% of patients at diagnosis, 90% of patients treated with radiation and 80% of those under chemotherapy treatment .[20] In research in patients with advanced cancer, fatigue is one of the most common and disabling symptoms.[21]

Regarding **cause of cancer related fatigue,** a number of promising mechanisms have been identified, including alterations in immune and neuroendocrine function,[22,23] disturbances in sleep and circadian rhythms,[24] catastrophizing coping style,[25] psychological distress, pain, and other symptoms.[26,27] Other factors that may increase one's risk for fatigue are genetic factors, personality characteristics, and pre-existing medical conditions.[28]

Pain:

Chronic pain is a frequent complication of cancer and its treatments and is often underreported, under diagnosed, and undertreated. Pain in cancer survivors is caused by residual tissue damage from the cancer and/or the cancer therapy. This pain can be divided into 3 pathophysiologic categories: somatic, visceral, and neuropathic. The most common treatment-induced chronic pain syndromes are neuropathies secondary to surgery, radiation therapy, and chemotherapy. [29] Post chemotherapy painful neuropathy is well described with the use of vincristine, platinum, taxanes, thalidomide, bortezomib and, some other agents. Radiation neural damage and pain may surface decades after radiotherapy completion. Finally, post surgical pain syndromes come in many varieties including, post mastectomy, post amputation, post thoracotomy, and other chronic pain states.[30]

The prevalence of chronic pain in breast cancer survivors is estimated to be at least 50 %.[31] the prevalence of phantom limb pain (PLP) after amputation is estimated to be between 7% to 72% depending upon the 'cut-off' points applied to evaluate the pain severity.[32] Long term severe pain after thoracotomy may have prevalence as high as 50%.[33] The incidence of pain following treatment for head and neck cancer may be as high as 50%, with more than 50% disabled 1 year after diagnosis, highly co-relating to pain scores.[34]

Sexual Problems:

Sexual concerns of cancer survivors often remain unaddressed as patients feel embarrassed discussing their problems with doctor. In a bibliographic review of the literature between 1974 and 2007 it was found that breast cancer patients, especially younger patients suffer from poor sexual functioning that negatively affect quality of life.[35] In **females**, dysfunction may result from various oncologic therapies such as surgery, radiation therapy, chemotherapy, hormonal manipulation, and cytostatic medication. Additionally, psychological distress that the patient or her partner experiences during diagnosis and treatment of malignancy can impair a healthy female sexual response cycle.[36]

Among **males,** sexual dysfunction and infertility are common long-lasting sequelae in testicular cancer survivors, affecting approximately 20% of patients after the application of the different treatment modalities currently available for the treatment of early and advanced clinical stages, including retroperitoneal surgery and systemic chemotherapy. It is even worse because testicular cancer mostly affects men in the prime of their physical, sexual and reproductive function.[37] Compared with their age mates, men with prostate cancer have a 10 to 15 fold increase in Erectile Dysfunction. This sexual dysfunction will lead to consequent adverse changes in couple and intimate relationships.[38] Specific attention towards this aspect needs to be given if overall quality of life of cancer survivors needs to be improved.

Limitation in activities of daily living :

Activities of daily living are defined as those ageappropriate physical and cognitive activities that individuals generally perform for themselves as part of their daily self-care. For adults, these include such activities as bathing, using the toilet, dressing, preparing meals, and feeding self. Instrumental activities of daily living include such tasks as using a telephone, shopping, paying bills, and using transportation. Cancer survivors without any other chronic illnesses were more than twice as likely as individuals without a history of cancer or other chronic illness to report limitations in their ability to perform activities of daily living and significantly more likely to have other functional limitations.[39]

Impairment and Disability

Cancer survivors are at risk for a wide range of late effects after their primary cancer treatment. Unfortunately, there is limited information about the exact incidence and prevalence of many physical late effects.[40] Cancer survivors in all age groups report higher rates of chronic illness compared with their counterparts with no history of the illness. Various surveys indicate that a medical history of cancer at least doubles an individual's likelihood of poor health and disability.

Individuals with a history of cancer also have significantly higher rates of other chronic illnesses, such as cardiovascular disease. When cancer and another chronic illness co-occur, poor health and disability rates are 5 to 10 times higher than otherwise expected.[41]

Cognitive impairment has also been documented in adults. Although the cause of such impairment (dubbed "chemobrain" by some cancer survivors) is not yet clear, women treated with chemotherapy for breast cancer, for example, show subtle declines in global cognitive functioning, most particularly in language skills (e.g., word-finding ability), short-term memory, and spatial abilities; lesser impairment is found in their working and long-term memory and their speed of information processing.[42] Similar impairment of verbal memory and other executive cognitive functions has been found in adults treated for lung, colorectal, lymphoma, and other types of cancer; however, different types of cancer and their treatment vary in their cognitive effects.[43]

Social Support & Financial Stress

The physical and psychological problems described above can be exacerbated by or produce significant new social problems. Financial problems resulting from low income, the cost of health care, as well as reduced employment and income can result in substantial stress. This financial stress is compounded when a patient suffers a job loss or is not working during the period of treatment.

Though most of the data is of Western population, an Indian study of 440 advanced cancer patients revealed that Lack of financial resources and facilities for follow-up, concerns about the welfare of the family in the absence of proper state-sponsored social security schemes and lack of proper communication between doctors and patients were the major problems that the patients faced.[44] Also in developing countries, ignorance, social structure, stigma attached in seeking psychological help, and poor communication skills of oncology staff all contribute to poor rehabilitative efforts.[45]

Patients with cancer and their families often experience an enhanced need for "social support." Social support has been found to be empirically related to influencing health outcomes. It was noted that out of nine different types of social support, "emotional support" is the most important. There are also different providers of social support, with the immediate family being the most common provider.[46] High stress levels in family caregivers also can interfere with their ability to provide the emotional or logistical support patients need. This can exacerbate the patient's stress and lead to the cascading consequences of elevated stress described above. Because of the changes and necessary adaptation in the family brought about by the care giving needs of the patient, family members are sometimes considered “second-order patients”.[47]

CHILDHOOD CANCER SURVIVORS

Dramatic improvements in childhood cancer over the last three decades have resulted in rapidly growing number of long term survivors. With overall cure rates exceeding 65%, it is estimated that 1 in 900 adults is a survivor of childhood malignancy.[48] This population is at an increased risk of a number of medical problems such as specific organ toxicities, delayed growth and other endocrinological problems, reduced fertility, neurocognitive impairment and second malignancies.[49] The potential long term physical sequelae of successful cancer treatment may include physical disfigurement (radiotherapy to face, chronic hair loss or amputation) or limitation of function e.g. following limb salvage procedure.[50]

The psychological impact of having had childhood cancer can continue long after treatment ends for survivors and their families. However, reassuringly most survivors appear to have a reasonable level of psychosocial adjustment. This adjustment in the years after completion of therapy depends on number of variables. The age at diagnosis, level of academic functioning and family cohesiveness are major determinants in childhood and adolescence. The diagnosis of cancer and subsequent treatment may challenge the child’s normal development by limiting opportunities, restricting play and activities, delaying the attainment of potential autonomy and potentially compromising family and peer relationships. These effects may differ specifically as a function of the child’s age.

For infants, cancer is most likely to affect parent-child relationships, restrict mobility, or limit opportunity to socialise with peers. For older children, the impact of cancer can lead to reduced schooling, compromised peer relationships, more time with adults, concern about body image and awareness of vulnerability and possible death. Cancer in adolescence may extend the period of dependency on parents and may reduce opportunities to develop close interpersonal relationships for example with the opposite sex.[50]

It has also become evident that these childhood survivors experience long-term neurocognitive deficits. Many of these deficits have been found to be the result of cancer-related therapies including intravenous and intrathecal chemotherapy and cranial radiation. These neurocognitive deficits include learning disabilities, cognitive deficits, attention disorders, and difficulties with memory.[51]

With respect to academic career a study on Acute Lymphoblastic leukaemia (ALL) treatment survivors reported significantly poorer school performance in patients compared to siblings. This was shown by both a higher referral to special primary schools for learning disabled and a lower level of accomplished secondary education in ALL survivors.[52]

PSYCHOTHERAPEUTIC INTERVENTIONS

Educational Intervention

Educational interventions generally fall into two categories. The first focuses on provision of **medical information** about cancer and its treatments. Throughout treatment, but particularly after receiving the initial diagnosis of cancer, patient often desire and seek out detailed information about illness. Information can serve as a means to provide social support and to enhance coping as well as to promote increased participation and decision making regarding treatment in a cost effective manner.[53]

The second category, **psycho-education**, is a frequently used approach that focuses on providing participants with educational information about psychological aspects of cancer and offering an array of tools they can use to cope effectively with the stressors and emotional responses to their cancer diagnoses. Fawzy & Fawzy have pioneered the use of a psychoeducational model tailored specifically to the needs of cancer patients. Their structured intervention consists of four components: health education, stress management awareness and training, coping skills training and psychological support.[54] In research studies comparing psyhcoeducational to supportive group interventions , the majority favoured the efficacy of psyhcoeducational approaches for psychological outcomes.[55] The advantages of educational interventions are their brevity, ease of modification for a variety of patients, and settings by a range of health care professionals, and cost effectiveness. In a meta-analysis of 116 studies psychoeducational care was found to benefit adults with cancer in relation to anxiety, depression, nausea, vomiting, pain, and knowledge.[56] In another meta-analysis to analyze their efficacy in cancer related pain they were given status of an adjuvant therapy with analgesic treatment.[57]

COGNITIVE BEHAVIORAL THERAPY

The term cognitive-behaviour therapy (CBT) refers to a broad range of psychological approaches that have in common an interest in the role of thought and behaviours in creating and maintaining psychological distress. CBT interventions for cancer patients focus on skills training to modify problematic thinking styles and behavioural responses that can lead to or exacerbate emotional distress associated with cancer. CBT techniques have also been implemented to address cancer symptoms and treatment side effects. It is successful in reducing fatigue and functional impairment in cancer survivors.[58] Included in broad category of CBT are, pure cognitive, pure behavioural, and combination of these techniques as well as psyhcoeducational. In cancer short term (6-12 sessions), structured CBT is often found to be effective. Sessions are less formal, more flexible, and more supportive.[59]

Cognitive interventions include-

- Teaching cognitive restructuring to modify beliefs related to body image (e.g. loss of hair or body parts), depression (e.g. feeling of worthlessness or hopelessness), and anxiety (worries about the future).[60]
- Identifying, recording and eventually challenging negative automatic thoughts.
- Teaching effective cognitive coping strategies to deal with fears related to medical procedures.
- Rehearsing impending stressful events and ways of handling these, through imagination and role play.
- Planning and carrying out practical activities which instil a sense of mastery, control and pleasure.
- Raising self esteem by identifying and fostering personal strengths.

Behavioural interventions include-

- Teaching stress management and problem solving skills to deal with illness related stressors.
- Communication skills to improve relationships between family, friends and health care providers.
- Behavioural activation techniques for goal setting to address activity level, particularly during depressive episodes.
- Relaxation techniques (e.g. progressive muscular relaxation, deep breathing and guided imagery) to cope up with physical symptom such as nausea and fatigue.

In a review of psychological intervention studies it was found that, cognitive-behavioral interventions are effective in reducing and managing psychological distress in cancer patients and are accepted by these patients.[61] In a randomized controlled trial of 115 patients who were given 8 weekly 2-hr sessions that focused on mindfulness based cognitive therapy results were large and significant improvements in mindfulness, depression, anxiety, and distress as well as a trend for quality of life.[62]

Beneficial effects of CBT are even seen in young patients as was seen in a study on 40 young brain tumour survivors (aged 4-14 years) using Child Behaviour Checklist 4-18 (CBCL/4-18) and the Vineland Adaptive Behavioural Scales (VABS). With regard to the CBCL/4-18, the clinical group showed a significant advantage on the withdrawn, somatic complaints, social problems, attention problems, internalising and total problem scales. On the VABS, the treatment group improved to a significantly greater extent in the social skills domain.[63]

GROUP INTERVENTIONS

Group psychotherapy specifically designed for people with cancer may very well be the most powerful psychosocial intervention available for vast majority of patients.[55] Group meetings for patients with cancer provides a forum for expressing feelings, exchanging practical information and giving and receiving psychological support. They may be led by health care professionals or by patients themselves on self-help basis. They are extremely cost and time efficient. Types of groups include

Psycho-educational groups with a structured format. Each meeting is devoted to a special topic which may relate to medical or lifestyle issues as well psychological ones. Professional leader provide information followed by opportunities for discussion. The focus of the group should be to address the most relevant issues affecting the patient's quality of life and physical health. Topics of group discussion could be inductive (patient driven) or deductive (therapist driven). Patient's topic arise from their immediate concerns such as coping with pain, nausea, negative mood, intrusive thoughts, fatigue, communication with doctor, family or friend.

Therapist driven topics are often emotionally difficult for patients to pursue at this time, even though they may feel better afterward. These include issues of establishing meaningful social support, confronting fears, expressing negative emotion etc. In a RCT on 256 breast cancer survivors who were given 'Breast Cancer Education Intervention (BCEI)' in three face-to-face sessions and five monthly follow-up sessions, overall Quality of life (QOL), physical, psychological, social, and spiritual well-being were assessed. The conclusion was that BCEI was an effective intervention in improving QOL during the first year of breast cancer survivorship and treatment effects were durable over time.[64] In a systematic qualitative analysis of meta-analysis's and RCT's of psychoeducational intervention on cancer patients significant benefits were reported for depressive symptoms.[65]

Supportive Expressive Group Therapy- these interventions for cancer patients focus on providing emotional and social support to participants and encouraging emotional expression. Within this category are approaches which focus on existential and spiritual themes such as the search for meaning in cancer, confronting suffering and exploring religion and faith. They are often undertaken for advanced cancer patients. In a Randomized clinical intervention trial on 125 metastatic breast cancer patients 'Supportive-expressive therapy' group showed a significantly greater decline in total mood disturbance (effect size, 0.25) and traumatic stress symptoms (effect size, 0.33) for the treatment condition compared with the control condition.[66]

Self Help Groups- In West, growing number of voluntary self help organisations offer support to people with cancer in community. Voluntary support groups generally offer emotional support in the form of group meetings or one-to-one listening and befriending, telephone support, some form of information library, home and hospital visiting and social activities.[67] These groups also teach specific self help techniques such as relaxation, anxiety management, visualisation or meditation.[68] A self help intervention project was carried on 169 women undergoing treatment for breast cancer, the interventions significantly reduced fatigue, pain, and nausea burden.[69] Higher levels of self-care, self-help, psychological adjustment, and confidence in cancer knowledge by time effect, irrespective of their baseline resourcefulness, were reported in 193 breast cancer patients in a similar study.[70]

Telephone Counselling

Despite the literature documenting the efficacy of psychosocial intervention for cancer patients, a major obstacle to the potential utilisation of such protocols is accessibility. In response to such barriers various programs using telephone as communication tool have been developed to provide health education, referral information, counselling and group support. It is part of multicomponent CBT and interpersonal psychotherapy for breast cancer patients.[71] In a Randomized Clinical Trial of telephone administered cognitive behavioural therapy on 408 patients who had undergone haematopoietic stem cell transplantation, conclusion was that it is an efficacious treatment for reducing illness-related PTSD symptoms and general distress.[72]

Mind-Body-Spiritiual Inverventions

It is one area of complementary medicine that focuses on mental, emotional, behavioural, social and spiritual processes to affect health and personal growth. Newer techniques include yoga, meditation, prayer, and expressive arts such as dance, art and music. They improve coping, symptom management and quality of life as supported by study on breast cancer patient's[73]. As a complementary therapy, yoga integrates awareness of breath, relaxation, exercise, and social support—elements that are key to enhancing quality of life in patients with cancer. Yoga practice may assist cancer survivors in managing symptoms such as depression, anxiety, insomnia, pain, and fatigue.[74,75] However, current evidence does not support their role in modifying cancer course or outcome.

Efficacy of psychotherapeutic interventions

The preponderance of evidence furnished by these systematic reviews, particularly which gleaned from meta-analyses, suggest that psychological interventions are effective in managing distress in cancer patients. Although effectiveness may vary as a function of the specific nature of the intervention, overall, effectiveness appears strongest for anxiety-related outcomes and when participants are pre-screened for distress.[76] Breast cancer patients have historically been the most common patient group studied, although there is now ample research in other populations and mixed groups demonstrating therapeutic efficacy to confidently generalize outcomes beyond breast cancer. Some authors have repeatedly suggested that the evidence of the efficacy of psychosocial therapy is strong enough that it should be considered on the same footing as adjunctive medical therapies such as chemotherapy.[77]

Some studies on the other hand have not fully agreed with such promising results. They have stated that these appraisals may still be overly positive because of reviewers uncritical acceptance of flaws in the design, analysis, and reporting of the results of such trials. Using randomized trials from high-impact journals, they have shown confirmatory bias, selective reporting of the most favourable of multiple outcome measures, suppressing of null results in subsequent citations of trials, and dropping of data for patients least likely to benefit from intervention.[78]

Thus to conclude, psychiatric interventions surely help in reducing distress of cancer survivors to considerable extent. With the available evidence this can be certainly stated that they merit their place in every cancer survivor's treatment plan.

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