

New research in psychooncology

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Purpose of review

The objectives of this review are to identify new studies in the area of psychooncology, and ascertain the directions current studies are taking.

Recent findings

New studies relate to the measurement of distress, which is being strongly proposed as the sixth vital sign in the assessment of patients with cancer. Attempts to use different scales and instruments to screen for depression and psychiatric morbidity in patients with cancer have also been made. Posttraumatic stress disorder, fatigue, somatization and cognitive dysfunctions have been studied. The field of psychoneuroimmunology has further strengthened our understanding of the impact of stress on immune function. Cancer survivors and their coping methods, sexual health, and suicidality have been the focus of research in the last year. Quality of life of caregivers has also been studied, as has spirituality. Cognitive behaviour group therapy in relatives of patients with cancer appears to be helpful.

Summary

New studies in psychooncology have focused on the relationship between psychosocial factors and cancer, such as detection of distress and psychiatric morbidity, intervention, coping methods used by survivors, and psychoneuroimmunology. Research in psychooncology is an exciting area despite numerous challenges.

Keywords

caregivers, distress, psychoneuroimmunology, psychooncology, quality of life

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Introduction

Research in psychooncology generally focuses on several aspects, including biological, psychological, social, spiritual, and clinical areas. This is due to its multidisciplinary approach and the multitude of work which is carried out on this topic. Progress has been made in several areas, adding to our understanding of the concept, its biology and mechanisms, psychological responses, psychiatric disorders, their management in terms of pharmacological and nonpharmacological techniques. This study reviews recent research in the field of psychooncology, including assessments, psychiatric disorders, interventions, caregiver stress, staff stress and psychoneuroimmunology.

Assessments

Distress related to cancer has been one of the most researched areas, especially in terms of understanding the concept, identifying distress, and breaking it down into understandable components. Distress has been proposed as the sixth vital sign [1]. A recent contribution [2•] to the concept of distress has been to examine the experience of suffering among patients receiving

palliative care for cancer. In cancer, pain, difficult symptoms and suffering are not synonyms. Suffering is not a ubiquitous experience, contradicting the assumption that advanced cancer inevitably causes suffering [2•].

Screening for distress has been possible with the Distress Thermometer which was validated against the Center for Epidemiological Studies – Depression scale (CES-D) [3]. Specific symptoms of depression, anxiety, pain and fatigue, and young age were most predictive of distress [4•]. Higher distress was also shown by patients with lower income, single/widowed or divorced, those living far from the cancer centre, presence of pain and those in the advanced stages of cancer [5]. The Hospital Anxiety and Depression scale (HADS) continues to be another popular instrument to assess emotional distress, and was completed by patients on touch screen computers [6•].

An abbreviated 10-item version of the Edinburgh Depression Scale (EDS) has been used as a brief valid tool to screen for depression in patients with advanced cancer [7•]. Earlier studies by the same researchers had focused on validation of the EDS in palliative care. A

recent trial [8**] validated the two-item screening interview for depression against a formal psychiatric interview in a palliative care unit. Studies have therefore focused on validating questionnaires for detection of psychiatric morbidity in patients with cancer, but there are only a few structured psychiatric assessments against which the questionnaires have been validated.

Psychiatric disorders

Posttraumatic stress disorder (PTSD) has been identified as an additional morbidity among patients with cancer [9**]. There have been no previous attempts to determine the prevalence of acute stress disorders in patients with cancer. Mehnert and Koch [9**] have also aimed to identify events experienced as traumatic. They propose a critical evaluation is required to ascertain whether subjective feelings of uncertainty and fear of treatment count as a traumatic event.

A recent study [10**] focused on alcohol use, abuse and dependency, depression and cognitive impairment in preoperative patients with head and neck cancer, and reported rates of alcohol abuse (63.6%) and dependence (62%). Measurable deficits were noted in cognitive functions. Both alcohol use and lower cognitive reserves have prognostic implications, as abstinence from alcohol leads to prolonged survival and fewer associated comorbidities. Cognitive deficits may hamper rehabilitation of speech and swallowing in patients undergoing major head and neck resection and reconstruction [10**].

Somatization in patients with cancer has been reported recently [11,12]. In a controlled, prospective study on patients who had recovered from cancer and who were complaining of unexplained and persistent fatigue, fatigue was reported by 64%. Patients with fatigue had greater frequency of depressive, anxiety, and atypical somatoform disorders. Other somatic symptoms have been observed in patients who had recovered from cancer, which may be manifestations of abnormal illness behaviour [12]. Chronic fatigue has been reported to be related to poor quality of life (QOL) and health service utilization [13,14]. Related studies on alexithymia, and illness behaviour correlates of pain experience in patients with cancer, however, did not reveal any relationship with global alexithymia scores [15]. Another novel concept, sense of coherence (SOC), seems to be protective against demoralization, and existential distress. This has practical implications as clinicians may want to consider efforts to enhance SOC in patients [16].

In a large cohort of palliative care patients [17*], psychiatric assessment using the modified version of the Primary Care evaluation of Mental disorders (PRIME-MD) clinician evaluation guide identified a high prevalence of depression and anxiety. It is interesting to note the

resurgence of interest in the prevalence of psychiatric morbidity in palliative care. This interest may encourage further research into refining such efforts with larger samples, use of validated tools, and structured diagnostic interviews with the help of trained mental health professionals. There is also a need to focus on common psychiatric problems like adjustment disorders and link them with flexible interventions using local resources.

Interventions and treatment-related issues

The Supportive Care Guidelines Group [18] conducted a systematic review on the treatment of depression in cancer and concluded that there was limited evidence for the effectiveness of pharmacological and psychosocial interventions in the treatment of depressive disorders in patients with cancer, and no evidence for the superiority of one treatment modality over another. They suggest that a combined approach may be the most effective, and further research is necessary. A Japanese study [19] questioned whether psychiatric interventions would improve major depression in very near end-of-life patients with cancer. The authors suggest that the patients' survival time largely influences the response to psychiatric treatment; it is hard to achieve a response in patients with a short survival time. Another review of trazodone [20] throws light on its potential utility in symptomatic patients with advanced cancer, its drug interactions and toxicities.

A metaanalysis of psychological interventions that enhance the adjustment of children with cancer and their parents [21] reports only modest support for their effectiveness.

A randomized controlled trial (RCT) using supportive-expressive group therapy (SEGT) for women with metastatic breast cancer [22] showed that SEGT did not prolong survival. It improved QOL, including treatment of and protection against depression. A critical review [23] of support groups for adults affected by cancer reported high levels of consumer satisfaction, improved morale and other QOL benefits short of prolonging life.

Patients receiving adjuvant therapy for breast cancer may experience cognitive problems which are self-reported [24]. The vast majority of patients felt that their memory and attention had been affected by adjuvant therapy. There was no significant association between self-reporting and objective cognitive decline. The self-reported cognitive problems were reported to be associated with psychological distress and QOL. Similarly, patients with cancer who experienced delirium during myeloblastic haematopoietic stem cell transplantation (HSCT) showed impaired neurocognitive abilities and persistent distress 80 days after transplantation. Effective

prevention or treatment of delirium during HSCT could improve cognitive and psychosocial outcomes [25^{••}].

Psychoneuroimmunology

There is more evidence demonstrating a clinically significant association between psychological stressors and onset or progression of cancer. More recently, the influences of the immune system on the brain and behaviour have also been highlighted [26,27^{••},28]. Psychoneuroimmunology research has demonstrated that psychosocial factors such as stress, pessimism, and sleep quality may promote human papilloma virus-mediated cervical neoplasia in HIV-positive women [26]. An interesting observation on evaluation of a woman's psychological and immunological response to breast biopsy showed that undergoing biopsy of the breast for a cancer diagnosis was an emotional experience, characterized by perceived stress, anxiety, and mood disturbance. This was elevated after the biopsy regardless of the diagnosis, and was accompanied by reduced natural killer (NK) cell activity and cytokine dysregulation. The relevance lies in the finding that not only women with malignancy but also those with benign findings undergo these changes [28]. One of the initial efforts to investigate trajectories in stress and immunity during recovery from a major stressor implies that NK cells and T cells are sensitive to different aspects of the stress response. The relationship between subjective stress (perceived stress, emotional stress) and immunity as individuals adjust to a severe stressor, a cancer diagnosis and its treatment in women with breast cancer showed that, while T-cell blastogenesis correlated with initial subjective stress, NK cell activity correlated with improvement. Follow-up analyses revealed perceived stress to be strongly related to immune function, while emotional distress was not [27^{••}].

Issues related to survivors

Survivors of cancer often face stressors and experience psychological symptoms. In one study [29^{••}], acceptance, religion, and distraction were used as primary coping strategies and were rated as highly helpful. Psychosocial responses in survivors of breast cancer demonstrated a pattern of recovery. Age, information, communication, social and emotional support, family and degree of symptom distress were identified to influence QOL outcomes, suggesting that the interventions should be focused on these aspects to improve QOL [30].

Another study [31] on the association between neuropsychological impairment, self-perceived cognitive deficits, fatigue, and health-related QOL (HRQOL) in patients with high-risk breast cancer reported self-perceived cognitive deficits in 46% and cancer-related fatigue in 82%.

Neuropsychological impairment was not directly associated with self-perceived cognitive deficits, fatigue and HRQOL. An interesting probe into the sexual health in women treated for cervical cancer [32] noted that survivors of cervical cancer reported less sexual interest, more sexual dysfunction, and lower sexual satisfaction. The most consistent predictors were time since diagnosis, receipt of radiotherapy, partner relationships and perceived appearance, as well as vaginal changes.

Other noteworthy studies have delved into cancer survivorship and work, bringing out the impact of diagnosis and treatment of cancer on the person's ability to fully engage in a job [33]. A study on suicidal ideation and attempts in adult survivors of childhood cancer reported more suicidal tendencies in those who were younger at diagnosis or were diagnosed a long time ago, had undergone cranial radiation treatment, were diagnosed with leukaemia, suffered from depression, hopelessness and pain, and were concerned with physical appearance. Current physical functioning, including pain, was significantly associated with suicidality [34].

Evidence from systematic and literature reviews [35^{••},36] on the psychosocial impact of parental cancer on children and adolescents suggests that children and adolescents do not generally experience elevated levels of serious psychosocial difficulties compared with reference groups, but they are at a slightly increased risk from internalizing type problems [35^{••}]. These findings have implications for identifying families with children most in need of support.

Caregiver stress

The impact of cancer on patients' relatives has been studied quite extensively, exploring a range of issues. One study [37] questioned close relatives of patients with head and neck cancer about their needs during and after treatment and found that simultaneous psychosocial care of the patients and the caregivers would improve coping strategies. A RCT [38] of a prompt list to help patients with advanced cancer as well as their caregivers showed that patients and caregivers asked twice as many questions as, and discussed more issues than, the control group. These findings highlight the need to ensure that patients and caregivers are well informed, helping them to cope with end-of-life issues, alleviating anxiety and dissatisfaction.

A study on spiritual aspects of QOL of caregivers [39] suggests that maintaining faith and finding meaning in cancer caregiving buffer the adverse effects of caregiving stress. A RCT [40] looked into the potential impact of the participation of patients with advanced cancer in a structured multidisciplinary intervention on the

caregivers' burden and QOL. Though the QOL of the patients improved, there was no evidence of any effect on the caregivers. Religion was used in various ways to help with coping and psychological adjustment in caregivers. One study on the association between religiousness and major depressive disorder in bereaved families [41] reported that caregivers with greater religiousness scores at baseline had lower rates of depression after the loss. Support from community groups and religious support groups during bereavement could offer an effective method for some caregivers to adapt to their loss.

Another study [42^{••}] on the association between religious coping, mental health and the caring experience among informal caregivers of patients with advanced cancer showed that positive religious coping strategies were related to more burden, but also more satisfaction. Negative religious coping strategies were again associated with more burden, poorer QOL, less satisfaction and increased likelihood of major depressive disorder and anxiety disorder. The experience of meaning in life was positively related to feelings of psychological well being and negatively related to feelings of distress [43]. The experience of meaning in life was also related to trait-like characteristics such as personality. There is, therefore, scope for future research into whether and how the experience of meaning in life eventually changes as a result of existential threats [43]. Despite the importance of this aspect, the spiritual domain of QOL is least frequently measured [44].

Cognitive behaviour group therapy in relatives of patients with cancer [45] had a positive effect on distress, sleep problems and adjustment to illness, which was maintained during follow up. Another intervention used recently in caregivers is a brief behavioural sleep intervention for family caregivers, Caregiver Sleep Intervention (CASI), which includes stimulus control, relaxation, cognitive therapy, and sleep hygiene elements. The intervention is individualized and delivered to the caregivers and has been shown to improve quality of sleep and depressive symptoms [46].

Other interesting studies have emerged from Japan on burnout in the form of low personal accomplishment and psychiatric morbidity among physicians engaged in end-of-life care for patients with cancer [47], and related to communication style preferences [48] and breaking bad news [49]. An interesting qualitative study of hospice nurses' experiences [50] has probed their resilience and well being in palliative care situations in relation to their hardiness and sense of coherence.

Conclusion

Recent studies in psychooncology relate to the measurement of distress, which is being strongly propagated as

the sixth vital sign in the assessment of patients with cancer [1]. Attempts to use different scales to screen for depression in cancer have also been made. PTSD, fatigue, somatization and cognitive dysfunctions have been studied. Studies in the field of psychoneuroimmunology have further enhanced our knowledge of the impact of stress on immune functions. Cancer survivors and their coping methods, sexual health, and suicidality were other areas of research in the last year. QOL of caregivers has also been studied, especially the effect of spirituality on QOL of caregivers of cancer survivors. Cognitive behaviour group therapy in relatives of patients with cancer was reported to be helpful. Research on the use of technology, such as touch screen computers [6[•]] and long-term telephone therapies [51], are novel approaches. Recent studies include literature-based systematic reviews and metaanalyses, as well as research studies. This review emphasizes the need for more studies with randomized or controlled groups, with longer follow-up periods and larger samples.

References and recommended reading

Papers of particular interest, published within the annual period of review, have been highlighted as:

- of special interest
- of outstanding interest

Additional references related to this topic can also be found in the Current World Literature section in this issue (p. 226).

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