

The Prevalence of Psychological and Psychiatric Sequelae of Cancer in the Elderly – How Much Do We Know?

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Abstract

Introduction: Ageing is the greatest single risk factor for cancer but there is a dearth of systematically reviewed data on the psychological and psychiatric sequelae in elderly cancer patients. The aim of this paper is to review the current literature on these issues. **Materials and Methods:** Multiple searches using Medline (1970 to 2003), PsycInfo (1970 to 2003), CINAHL (1982 to 2003), EMBASE Psychiatry (1992 to 2003) and Cochrane Research Database were carried out. Additional searches were made using the reference lists of published papers and chapters. **Results:** Most of the studies were cross-sectional in nature. The few longitudinal studies had fairly short follow-up periods. Overall, the available evidence suggests that up to a third of elderly cancer patients may experience psychological distress. The psychological impact of cancer on the elderly was less adverse or similar compared with younger patients. There were only limited studies that specifically addressed the prevalence of psychiatric disorders in elderly cancer patients, which suggested that the prevalence for clinically significant depression could range from 3% to 25%. Organic mental disorders were more prevalent in the older group. **Conclusions:** This review suggests that the psychological impact of cancer is less negative in the elderly compared to younger patients. As for the prevalence of psychiatric disorders in elderly cancer patients, this review suggests that it is an unanswered question with a dearth of published data, with most work either based only on clinical or hospital samples or not solely on the elderly.

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Introduction

Across the globe, there has been a rapid increase in the absolute and relative numbers of older persons. According to the 1993 World Bank report, the number of people aged 65 and above will form 1 in 4 of the population in 2025.¹ The projected percentage increase in the population aged 60 and above by the year 2020 is 159% in less developed countries and 59% in developed countries.² There will continue to be more older-old persons (i.e., 75 to 84 years, and 85 years and older) in the old-age segment of the population.

Amongst the physical illnesses, cancer is one of the leading causes of death and disability worldwide. Meanwhile, ageing is the greatest single risk factor for cancer. Incidence data from the National Cancer Institute Surveillance, Epidemiology, and End Results (SEER) programme in the United States showed a tenfold larger

figure for those 65 years or older compared to those less than 65 years old, with more than 58% of all cancers occurring in the elderly.³ In addition, advances in early cancer detection and treatment are extending elderly patients' survival.⁴

Despite these realities, the elderly have been historically underrepresented in clinical studies of cancer. Myths regarding cancer in the elderly are held not only by older patients themselves but are also prevalent among health workers.⁵ While there has been some progress in the knowledge of cancer in older people in the physical domain of geriatric medicine and oncology in the last 15 years, there is still a dearth of systematically studied data on the psychosocial impact of cancer on the elderly. Even less is known about the prevalence of various psychiatric disorders in this group of cancer patients.

Special challenges of treating elderly cancer patients

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include:

1. Decrease in self-reported psychiatric symptoms such as depressive symptoms⁶
2. Comorbid illnesses⁷⁻⁹
3. Polypharmacy
4. Altered pharmacokinetic and pharmacodynamic
5. Cognitive deficits
6. Diminished social support
7. Limited financial resources
8. Possibly, limited knowledge regarding the treatment options of cancer

The above factors can have significant implications for cancer detection, treatment, rehabilitation, and prevention in the elderly. The elderly cancer patients, therefore, are at risk of their psychiatric symptoms being undetected or under-treated.

The aim of this paper was to review the current literature on the psychological and psychiatric sequelae of cancer in the elderly.

Materials and Methods

Multiple searches using Medline (1970 to 2003), PsycInfo (1970 to 2003), CINAHL (1982 to 2003), EMBASE Psychiatry (1992 to 2003) and Cochrane Research Database were carried out, using various search terms such as “cancer”, “neoplasm”, “mental disorders”, “psychiatric symptoms”, “aged >60 years”, “elderly”, “geriatric”, “psychosocial impact” and “psychiatric disorders”.

Additional searches were made using the reference lists of published papers and chapters. All abstracts were retrieved and read and when there was any possibility that a paper might contain relevant material, the paper was read in full.

The search strategy was to first identify studies that focussed specifically on the elderly with cancer or compared the elderly with subjects in other age ranges. Next, studies that involved subjects with a wide age range but included those aged >60 years old were examined to see whether data pertaining to the elderly subjects were reported or could be extracted.

Psychological distress is a construct that can include myriads of measurements and variables. For the purpose of this review, studies that reported only psychological impact or distress and not actual psychiatric disorders were categorised under the “Psychological Impact” section. When the prevalence of psychiatric disorders – whether based on established diagnostic criteria or accepted cut-off thresholds of established rating scales – were reported, the results of these studies were reported under the “Psychiatric Disorders” section.

Results

Psychological Impact (Table 1)

Cancer is not just a single stressful situation. It is a complex and variable stressor in different stages of the disease and different environmental settings. Evidence suggests that pre-existing psychosocial factors patients bring to their cancer experience could significantly affect their adaptation to cancer. In addition, studies have shown that the 3 points of increased distress for cancer patients are at diagnosis,^{10,11} at recurrence or progression of the disease,^{12,13} and at the terminal stage.^{14,15}

Mages et al¹⁶ evaluated the impact of cancer from a lifespan perspective. According to them, cancer in older adults can lead to an acceleration of the ageing process and result in more rapid disengagement from work, social and leisure activities, and a greater dependency on others. In a study involving a large sample of cancer patients (n = 4496), with ages ranging from 19 years to 95 years (median, 57), Zabora et al¹⁷ found that the overall prevalence of psychological distress was 35.1% based on the Brief Symptom Inventory (BSI), which was quite similar to the 34% reported by Farber et al¹⁸ and slightly higher than the 28% by Stefanek et al.¹⁹ In Zabora et al’s study, the prevalence of psychological distress for those in the age ranges of 60 to 69, 70 to 79, and >80 were 34.7%, 29.7% and 32.9% respectively. When statistically analysed, the level of distress among the younger patients (<30 years old) was higher than that of the older patients except for the category of patients who were 80 years old and above.

Maisiak et al²⁰ studied 230 elderly cancer patients and reported that their overall psychosocial status was somewhat better than that of younger cancer patients. The main concerns for the elderly patients were tiredness/weakness, immobility, pain and side effects. In a comparative analysis of 6 chronic illnesses including cancer, Cassileth et al²¹ found that for all diagnostic groups, better mental health scores were found with the older group of patients. They postulated that older patients might develop more effective skills to manage life events on the basis of their years and experience. Their perspective and expectations may be more commensurate with adaptation to illness than is the case for younger patients. However, the authors’ speculation of the “biologic, evolutionary advantage for older patients” is less convincing.

Studying 240 elderly men with cancer using the Cancer Inventory of Problems Situations (CIPS), Ganz et al²² reported that there were no significant differences between the older and younger patients in healthcare setting issues, problems of daily living and marital and sexual problems. This was in spite of a higher rate of cardiac and other chronic diseases in the elderly patients. The elderly group had significantly less intense pain from surgery and did not

report more difficulties with chemotherapy. Compared to the younger patients, the older patients had fewer worries about their families if they were to die and fewer problems with talking to their spouse about the future and their disease.

The finding that older cancer patients have lower psychological distress is consistent with several other studies.²³⁻²⁷ Other studies, however, have found no association between age and psychological well-being or distress.^{19,28,29}

Most of the studies on the subject were cross-sectional in nature and hence could not provide insight as to whether the results change with time. A longitudinal perspective of the impact of age on the mental health of cancer patients was reported by Given et al³⁰ using 111 patients 50 years and older. The duration of follow-up was 6 months, and the mental health of the patients was measured by the Centre for Epidemiological Studies-Depression Scale (CES-D). The results indicated that age, either alone or in interaction with other variables, failed to predict patients' CES-D scores at intake and 6 months later. Vinokur et al³¹ studied a community sample of 274 breast cancer patients who were followed up for 10 months. The mean age of the sample was 58.8 years, with 32.3% (n = 89) aged 65 and above. Using various rating scales to cover multiple aspects of the patients' psychosocial status, younger age was found to exacerbate the impact of impairment on mental health. The more seriously impaired younger patients experienced more deterioration in their mental health and well-being than similarly impaired older patients. However, among the patients receiving more extensive surgery, significantly higher levels of symptoms with limitation of activities were manifested in the older patients than the younger ones.

Overall, the available evidence suggests that the psychological impact of cancer in the elderly was less adverse or similar when compared with younger age groups. However, on its own, the distress cancer and its treatment can cause in the elderly cannot be negated. Mettlin et al³² suggested that difficulties increase with age with regard to functional abilities, employability, and nursing care needs, especially when more complex combined modality therapy is instituted. Elderly patients may have fewer social supports and more limited financial resources and often have more chronic diseases than younger patients.³³

Psychiatric Disorders (Table 2)

There were relatively few studies that specifically examined psychiatric disorders in elderly cancer patients. The paper by Oxman et al³⁴ discussed organic mental syndromes and affective disorders but did not provide any information on the actual prevalence of these psychiatric disorders in elderly cancer patients.

Holland et al³⁵ highlighted their study at Memorial Sloan-Kettering, which used DSM-III criteria, and found an increase in organic mental disorders in the older group compared to the younger group (26% versus 12%). There was also a sharp decrease in the frequency of adjustment disorder in the older group while major depression was higher in those aged 70 and above. The most common psychiatric diagnosis in the older patients, as in the younger, was adjustment disorder with anxious, depressed, or mixed mood. However, the subjects were patients referred for psychiatric consultation and hence 96% of them had a psychiatric diagnosis.

More recently, Deimling et al³⁶ studied 180 older adults, long-term cancer survivors, and proposed a conceptual model for understanding general psychological distress and post-traumatic stress. The result showed that most patients did not have clinical levels of post-traumatic stress disorder, although over 25% had clinical levels of depression according to their CES-D scores.

The next strategy was to examine the prevalence studies of psychiatric disorders in a wider age range and to identify those that provided data on the elderly population. While there were a number of studies that examined the prevalence of psychiatric disorders (mainly depression and anxiety problems) in specific cancer sites, only some covered a wide range of psychiatric disorders in multiple cancer sites. Only a few studies reported on the actual prevalence of psychiatric disorders in the elderly. The study by Levine et al³⁷ involved 100 hospitalised cancer patients seen by the Psychiatry Consultation Service. Among those 60 years and older, 55.5% had a diagnosis of organic brain syndrome while 39.7% had "depression" (a category that comprised all DSM-II depressive syndromes). But the sample was likely to be a highly selected one since they represented only 1.9% of all cancer admissions, with all the patients referred being given a psychiatric diagnosis.

The first systematic and comprehensive prevalence study of a wide range of psychiatric disorders was carried out by the Psychosocial Collaborative Oncology Group (PSYCOG).³⁸ It found that 47% of the patients had a DSM-III diagnosis. But the paper did not provide data on the elderly patients of the sample.

More recently, Akechi et al³⁹ reported that amongst 1721 psychiatric referrals at 2 Japanese Cancer Centres, 73.4% had a DSM-IV psychiatric diagnosis, the 3 main diagnoses being adjustment disorders (34%), delirium (17%), and major depression (14%). Dementia was reported in 2.1% of the patients. Delirium was more common in those >60 years old (25%) compared to those <60 years old (10%). However, this was a retrospective study and the patients had been specifically referred for psychiatric consultation.

In the first extensive meta-analysis of the psychological

sequelae of cancer, which included 58 studies after 1980, van't Spijker et al⁴⁰ reported that the prevalence of depressive disorder or anxiety disorder ranged from 0% to 49%. But overall, with the exception of depression, the amount of psychological and psychiatric problems in patients with cancer does not differ from that of the normal population. It also reported that studies with younger patients (mean age, <50 years) reported more depression, anxiety, and general distress than studies with older patients (mean age, 50 years or over) but gave no figures for the prevalence rate of psychiatric disorders in the older group.

In Milan, Bredart et al⁴¹ studied 190 recently discharged cancer patients using the Hospital Anxiety and Depression Scale (HADS). They estimated that 16% of the patients would have major depressive disorders or generalised anxiety disorders. They found that the proportion of patients with an HADS score >14 in the older age group (>65) was 37%, an intermediate between the figures for those 50 years old and below (28%) and those 50 to 65 years old (51%). Similarly, Pascoe et al,⁴² also using HADS (with a cut-off of 11), found clinically significant anxiety to be more prevalent among patients <65 years old than those 65 years or over. Age, however, was not related to clinically significant depression (3.0% in those 65 years old and above versus 3.4% in those below 65 years old).

In those with advanced cancer, there have been few prevalence studies covering a broad range of psychiatric disorders. The most commonly studied conditions were those of depression and delirium. Minagawa et al⁴³ prospectively studied 93 terminally ill cancer patients using the Mini-Mental State Examination (MMSE) and Structured Clinical Interview for DSM-III-R (SCID). They reported that 53.7% met the DSM-III-R criteria for a psychiatric disorder: delirium was observed in 28% of the patients, dementia 10.7%, adjustment disorders 7.5%, amnesic disorder 3.2%, major depression 3.2%, and generalised anxiety disorder 1.1%.

De Walden-Galuszko⁴⁴ studied 410 terminally ill cancer patients who were receiving home care. Psychiatric diagnosis was made by clinical interviews using DSM-III-R criteria. The results showed that 60% had a psychiatric disorder, while 37% had psychiatric morbidity due to cancer: 18% had adjustment disorders and 19% had organic mental syndromes (mainly confusional state). The remaining 23% of the psychiatric disorders consisted of dementia (17%) and prior psychiatric disorders (6%). The mean age was 66 years and better adaptation to the disease was observed in elderly patients, who were usually unaware of their medical status. Patients under 60 years old were more prone to adjustment disorders compared to those over 60 years old. However, no specific data on the prevalence rate in the elderly subjects were reported.

Implications

A better understanding of the extent of psychological distress and psychiatric disorders in elderly cancer patients would allow oncology service providers to evaluate the current psycho-oncological services, which often do not extend beyond social case works and ad-hoc counselling. A multidisciplinary mental health team that includes psychiatrist, psychologist, and medical social worker, working together, should be an integral component of holistic and comprehensive oncology services. Education of oncology staff and implementation of screening for psychological distress and psychiatric disorders (such as depression and anxiety) will allow early and appropriate psychiatric interventions (both psychopharmacological and psychotherapy) to be instituted.

Conclusions

Although the evidence suggests that the psychological impact of cancer may be less negative in the elderly compared to younger patients, the psychological distress cancer and its treatment can produce in the elderly is real and should not be ignored. In terms of the prevalence of psychiatric disorders in elderly cancer patients, this review suggests that it is an unanswered question as there is still a dearth of published data, with most work either based only on clinical or hospital samples or not solely on the elderly. Much needs to be done to address this issue systematically and specifically. This will have implications for cancer service planning to cater to the psychological needs in elderly cancer patients, thus ensuring that care is both comprehensive and holistic.

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Table 1. Psychological Impact of Cancer in the Elderly

Reference	Sample	Instrument used	Outcome
Zabora et al ¹⁷	4496 patients screened, aged 19-95 years	BSI	Overall prevalence rate of distress was 35.1%, rates for those aged 60-69, 70-79 and >80 were 34.7%, 29.7% and 32.9%, respectively Level of distress among those aged <30 years was higher than that of those aged 60-80 years
Maisiak et al ²⁰	230 elderly, aged 60-97 years	SAS-SR, BABS, LSI	Elderly patients were less likely to be depressed, but were more bothered by immobility problems, a lack of knowledge of services, and worry than younger cancer patients Overall psychosocial status of elderly patients was better than that of younger patients despite the former's lower income, less education, more symptoms, and lower performance status
Cassileth et al ²¹	758 outpatients with 6 chronic diseases including cancer (n = 193 aged 25-88 years)	MHI	Better mental scores were found with older group of patients: they had more positive affect, better emotional ties, and less anxiety, depression and loss of control
Ganz et al ²²	240 outpatients men; 79 aged >65 years and 161 aged <65 years	CPIS	Older patients had fewer psychosocial and treatment-related problems, and had fewer difficulties dealing with healthcare setting
Noyes et al ²³	400 patients	IDS	Patients aged <60 years were more likely than those >60 years to have higher total distress scores
Mor et al ²⁴	Data obtained from various studies of Rhode Island	QLI, PMS, CES-D, MOSI	Older patients with cancer, newly diagnosed or with advanced disease, had fewer negative psychosocial consequences e.g., they were less depressed
Kurtz et al ²⁵	208 patients-caregiver dyads followed up for up to 2 years	CES-D	Age had no independent effect on symptom severity, depression, ADL or immobility
Harrison & Maguire ²⁶	520 patients aged 18-75 years	PAS	Younger patients had greater difficulties in making emotional adjustment to cancer, with greater psychiatric morbidity and number of concerns
Parker et al ²⁷	351 outpatients aged 28-80 years	STAI, CES-D, SF-12	Older patients had less anxiety, depression and better QOL in the mental health domain
Vinokur et al ³¹	274 female outpatients aged 40-84 years	HSC-ADS, SIW	Younger patients had greater deterioration in their mental health than older patients

BABS: Bradburn Affect Balance Scale; BSI: Brief Symptom Inventory; CES-D: Centre for Epidemiological Studies-Depression Scale; CPIS: Cancer Inventory of Problem Situations; HSC-ADS: Hopkins Symptom Checklist-Anxiety, Depression & Somatic subscales; IDS: Illness Distress Scale; LSI: Life Satisfaction Scale; MHI: Mental Health Index; MOSI: Medical Study Outcome Index; PAS: Psychiatric Assessment Schedule; PMS: Profile of Mood Status; QLI: Quality of Life Index; SAS-SR: Social Adjustment Scale; SF-12: MOS 12-item Short-Form Health Survey; SIW: Social Indicators of Well-being; STAI: The State-Trait Anxiety Inventory

Table 2. Prevalence of Psychiatric Disorders in Elderly Cancer Patients

Reference	Sample	Interview or questionnaire used	Rates of psychiatric disorders
Holland & Massie ³⁵	546 patients referred to psychiatry service	DSM-III	Higher prevalence of organic disorders in patients aged 60 years and above versus younger group (26% versus 12%) Major depression higher in those aged 70 years and above
Deimling et al ³⁶	180 patients aged >60 years randomly selected from the community	CES-D, PCL-C	25% had clinical depression Most did not have clinical post-traumatic stress disorders
Levine et al ³⁷	100 consecutively hospitalised patients aged >60 years	DSM-II	55.5% had a diagnosis of organic brain syndrome and 39.7% had depression
Akechi et al ³⁹	1721 patients aged 15-88 years referred to psychiatric service	DSM-IV	Delirium more common in those >60 years (25%) compared to those <60 years (10%)
Bredart et al ⁴¹	190 hospitalised patients aged 22-87 years	HADS	Major depressive disorders and generalised anxiety disorders estimated to be 15% in those aged >65 years, compared to 11% in those aged <50 years
Pascoe et al ⁴²	504 outpatients aged 20-93 years; through postal survey (3.6%)	HADS	Clinically significant anxiety more prevalent in those aged <65 years old (7.5%) than those aged >65 years No difference in prevalence of clinical depression (3.0% in those 65 years old and above versus 3.4% in those below 65 years old)
Minagawa et al ⁴³	93 palliative inpatients; mean age, 67.2 years (s.d.=11.9)	DSM-III-R (SCID), MMSE	53.7% had a psychiatric disorder: delirium (28%), dementia (10.7%), adjustment disorders (7.5%), amnesic disorder (3.2%), major depression (3.2%), and generalised anxiety disorder (1.1%)
De Walden-Galuszko ⁴⁴	410 palliative inpatients; age range, 22-102 years	DSM-III-R	37% had psychiatric morbidity due to cancer: adjustment disorders (18%), and organic mental syndromes (19%) Patients aged <60 years were more prone to adjustment disorders compared to those >60 years old

CES-D: Centre for Epidemiological Studies-Depression Scale; DSM: Diagnostic and Statistical Manual; HADS: Hospital Anxiety and Depression Scale; MMSE: Mini Mental State Examination; PCL-C: PTSD checklist-civilian version; SCID: Structured Clinical Interview for DSM-III-R