

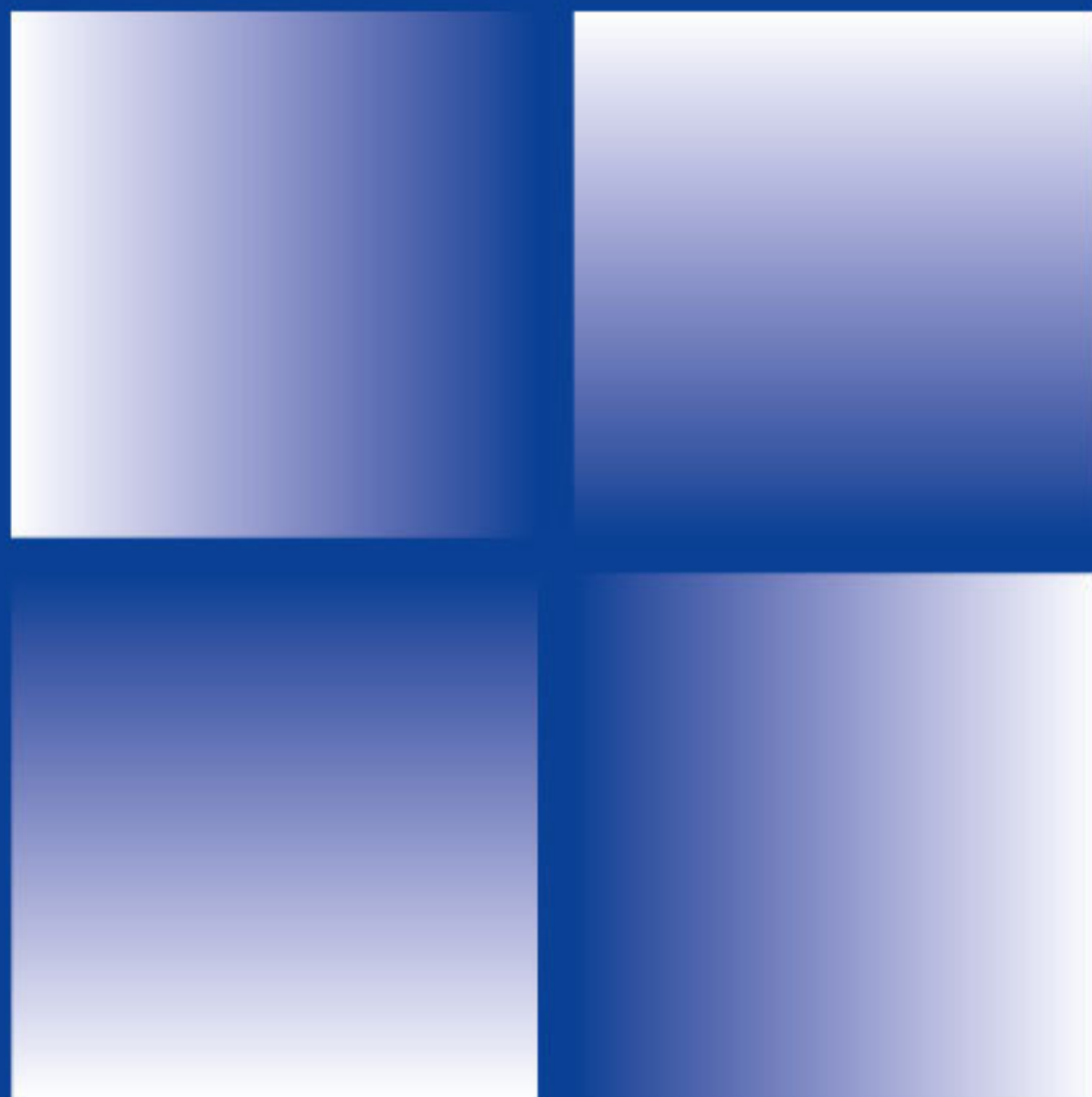
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Preoccupation with death as predictor of psychological distress in patients with haematologic malignancies

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The purpose of the present study was to identify preoccupation with death in relation to levels of psychological distress in patients with haematologic malignancies. One hundred and two inpatients with haematologic malignancies, treated with curative intent, and thirty-three control inpatients with benign dysfunction participated in the present study. Psychological distress was measured with the Hospital Anxiety and Depression Scale and the Freiburg Questionnaire of Coping with Illness. Preoccupation with death was assessed with the Subjective Estimation of Sickness and Death Scale. Patients with haematologic malignancies had significantly more preoccupation with death than the control group. In patients with haematologic malignancies preoccupation with death was related to depressive coping style as well as symptoms of depression and anxiety; regression analyses reveal that the diagnosis of haematologic malignancy leads to stronger subjective feelings of being close to death, which in turn leads to more psychological distress. To the best of our knowledge this is the first study that quantitatively shows the existence of preoccupation with death in patients with haematologic malignancies and its association with psychological distress. Our findings indicate that patients who are treated with a curative regime need psychological intervention focusing on death-related fear in order to prevent severe emotional distress.

Keywords: death awareness, anxiety, depression, haematologic malignancies, curative treatment, prognostic awareness.

INTRODUCTION

'Death for the dead, dying for the dying and anxiety for the weak . . .' With this ironic summary, Elisabeth Kübler-Ross (1969) tried to break the social taboo surrounding

death and dying in the early 1970s. Since then dying has slowly but increasingly been accepted as an integral part of medicine (Hinton 1999; Holland 1999), i.e. culminating 1994 in the Project on Death in America with the goal to help to transform the experience of dying in the USA. To date, the vast majority of studies dealing with open communication about death and dying or prognostic awareness have been conducted in incurable patients (e.g. with cancer) in palliative-care trials (Baile *et al.* 2005; Clayton *et al.* 2005; Hagerty *et al.* 2005; Barnett 2006). Numerous studies have examined patients' desire for information

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and autonomy in relation to their psychological adjustment to illness (Cassileth *et al.* 1980; Blanchard 1988). Studies support the view that patients cope better when provided with information instead of living with uncertainty and fear of the unknown (Dunn *et al.* 1993). The majority of people seek full information regarding their diagnosis, treatment options, side effects and probable outcomes.

Many physicians who openly discuss diagnosis and treatment with cancer patients express concern about the psychological impact of discussing a poor prognosis or the possibility of death during potentially curative therapy (Clayton *et al.* 2005). Studies suggest that health workers employ rather 'conditional' disclosure than 'full-open disclosure' (Field & Copp 1999). Patients' families as well as clinicians frequently try to avoid mentioning death and dying even when the patient's suffering is severe and the prognosis is poor (Wright *et al.* 2008). However, these concerns are at odds with findings that patients actually wish disclosure of information, honesty and empathy (Sansone-Fisher *et al.* 2000; Hagerty *et al.* 2005). Only in the case of an unrealistic estimation of the situation the awareness of a fatal prognosis can cause depression (Barnett 2006). In the palliative context it has been shown that initiating end-of-life discussions earlier and more systematically allows patients to make more informed choices, achieve more social support and have a better opportunity to concentrate on issues concerning the meaning of life and the end of life (Quill 2000; McPherson & Addington-Hall 2004). Furthermore, end-of-life discussions are associated with less aggressive medical care near death and an earlier hospice referral. Aggressive care is also related to less quality of life in patients and less bereavement adjustment in informal caregivers such as a spouse or an adult child (Wright *et al.* 2008).

Since only little is known about the impact of death-related feelings in patients with cancer or haematologic malignancies who are treated with curative intent, one cannot advise health-care professionals to openly communicate this topic or to provide psycho-oncologic counselling. We all know that cancer is a life-threatening illness but we do not know whether these patients indeed feel subjectively closer to death when they are treated with curative intent and whether these feelings are potentially related to negative coping or distress. Despite having a considerable chance to be cured, the life-threatening impact of the disease and the burden of high-risk therapies remain salient throughout the illness (Little & Sayers 2004). Most patients initially have a heightened awareness of death at the moment they receive the diagnosis (Leung & Esplen 2010). Patients experience violent emotional

swings between the hope for complete cure and a fear of dying. This uncertainty, the shock of diagnosis, existential concerns as well as the burden of treatment present a substantial challenge to possibilities of adaptation and coping in patients with haematologic malignancies (Holland & Rowland 1998). For some patients with cancer emotional distress culminates in an open psychiatric disorder (Frick *et al.* 2006; Mystakidou *et al.* 2007; Mehnert & Koch 2008). Although physical, psychological and social aspects of quality of life tend to improve over the years, for example, following haematopoietic stem cell transplantation, a significant proportion of haematopoietic stem cell transplantation survivors experience persistent anxiety and depressive symptoms (Mosher *et al.* 2009). An explanation for the existence of psychological distress, i.e. symptoms of anxiety and depression, after patients have been successfully treated is still debated in the literature. Several studies have shown that co-morbid psychological conditions are associated with poorer outcomes in cancer treatment (Jacobsen *et al.* 2005; Ryan *et al.* 2005) and even with shorter survival (Fawzy *et al.* 1993). When untreated, depressive symptoms can result in increased pain and fatigue as well as decreased physical and social functioning (Wells 1989). In addition, heightened distress has been associated with reductions in treatment adherence, satisfaction with care and quality of life (von Essen *et al.* 2002).

The purpose of this study was to examine whether preoccupation with death is significantly prevalent in potentially curable patients with haematologic malignancies and whether it is associated with psychological distress. To the best of our knowledge this is the first study that quantitatively assesses preoccupation with death in patients suffering from curatively treated haematologic malignancies. Specifically, we wanted to find out whether the diagnosis of a life-threatening but potentially curable illness (in our case the diagnosis of a haematologic malignancy) leads to symptoms of anxiety or depression and to negative coping and whether the emotional reaction follows preoccupation with and subjectively perceived closeness to death. The data collection of the study and the evaluation of a newly developed instrument [the Subjektive Einschätzung von Krankheitsverlauf und Tod (SEKT) scale, see below] took place from 2000 to 2004 at the Department of Internal Medicine III, University of Munich, Großhadern.

METHODS

Participants

Study participants were consecutively enrolled patients with haematologic malignancies and control patients who

were identified from weekly lists of inpatients scheduled for a visit on the wards. Patients were recruited at the Department of Internal Medicine III, University of Munich, Großhadern. Patients in the control sample were recruited from the Department of Physical Medicine, University of Munich, Großhadern, during the same time span. Research staff reviewed the lists and talked to the responsible clinician to identify potentially eligible patients. Eligibility for the patient group with haematologic malignancies required patients to have either a new diagnose or a relapse of a haematologic malignancy and to be treated with curative intent. Patients with advanced cancer as indicated by distant metastases and the failure of first-line therapy were excluded. Patients in the control group had to be admitted because of a benign, not life-threatening dysfunction of the musculoskeletal system, treatment for acute or chronic pain, rheumatoid arthritis and osteoarthritis. Control patients with life-threatening co-morbidity, such as heart disease or undergoing surgery, were excluded. Patients younger than 18 years or older than 75 years, as well as patients with neurological disorders or under psychopharmacological medication, were excluded from the study. The study was approved by the Institutional Review Board of the University Hospital Großhadern and the Ethics Committee of the Medical Faculty of the University of Munich.

Procedure

Participants were given letters by the medical doctors explaining the purpose of the study. When patients agreed to participate, they were approached by the researchers, who were special Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) trained psychologists or psycho-oncologists. First, eligibility to the study was determined according to the following criteria: (1) cognitive performance higher than 18 on the Mini-Mental-Status Test (Folstein *et al.* 2000); (2) fluent in German, and (3) no evidence of high fever, pain (patients with haematologic malignancies) or nausea. Finally, eligible participants were informed about the study after which written informed consent was obtained. While participants were tested with self-rating questionnaires the interviewer was not allowed to interfere beyond the simple introduction, but remained in the room in case emotional reactions that relate to questions about death and dying arose. A first assessment (T1) was performed during the first week after admission. At T1 the diagnosis was confirmed and the first course of chemotherapy treatment for patients with haematologic malignancies (or a specific treatment for the patients of the control group) started. Measurements were

repeated for the patients with haematologic malignancies after at least 4 weeks (T2) depending on the disclosure of the first remission report.

Measures

Socio-demographic variables

Information was collected on patients' gender, age, of relationship status, number of children, education and employment.

Disease-related variables

Type of cancer, disease stage (first diagnose, relapse), distance between assessment point one (T1) and prior disclosure of first diagnosis or relapse, respectively, were obtained from their medical charts. Remission status was assessed by the responsible physician at assessment point two (T2) according to the WHO scheme: 0 = not assessable, 1 = complete remission, 2 = partial remission, 3 = minor response, 4 = stable disease, 5 = progressive disease.

Patients' physical performance status was assessed using the Karnofsky Index (Karnofsky & Burchenal 1949). Within the first week of hospitalisation, physicians were asked to judge the curability of their patients. Their judgment was categorically assessed (1 = curable, 2 = not curable). Patients with haematologic malignancies were coded as patients with malignant (life-threatening) disease and control patients were coded as having a benign (not life-threatening) disease.

Preoccupation with death

Preoccupation with death was assessed with the self-rating questionnaire SEKT (Subjective Assessment of the Course of Disease and Death), which was developed for this study and validated (Schweiger *et al.* 2003; Schweiger 2004). The questionnaire consists of two subscales: (1) patient's prognostic awareness of death and (2) subjective closeness to death. Each subscale covers three questions: estimation of (1a) disease progression (1b) threat to life (1c) curability; (2a) actual occupation with death and dying (2b) former occupation with death and dying (2c) subjective closeness to death. Answers are given on a 5-point Likert scale (0 = not at all, 4 = very much). The data shown in this report are based on the addition of the two items 2a and 2c that form the subscale 'subjective closeness to death' (range 0 to 8) [Cronbachs' alpha (T1) 0.69 (T2) 0.81].

Psychological distress and coping style

Psychological distress, expressed in symptoms of anxiety and depression, were assessed with the Hospital Anxiety

and Depression Scale (HADS; Zigmond & Snaith 1983), a self-rating questionnaire consisting of 14 items, seven measuring anxiety and seven assessing depression. Each item is scored on a 4-point scale (0–3). A score of ≥ 8 for each subscale (anxiety, depression) signifies a case of depression and anxiety – with a sensitivity and specificity of approximately 0.80 (Bjelland *et al.* 2002). Adequate reliability scores have been documented for the German version of the depression subscale (Cronbach's alpha 0.81) (Herrmann *et al.* 1995). Depressive Coping was measured by self-reports using the Freiburg Questionnaire of Coping with Illness (Muthny 1989), which is a validated instrument widely used in Germany to measure coping strategies of patients including cancer patients (Faller & Schmidt 2004). It consists of 35 short statements about coping behaviour on a 5-point Likert scale with 1 = not at all and 5 = very much. The Depressive Coping subscale is measured by five items: brooding, arguing with fate, self-pity, acting impatiently and social withdrawal. Acceptable reliability (Cronbach's alpha > 0.70) has been demonstrated in cancer patients (Muthny 1989).

Data analysis

Data analysis was conducted in three steps. First, descriptive statistics for the variables of concern were calculated. Second, the relation of the socio-demographic and the medical variables (diagnosis, stage of diagnosis, Karnofsky Index, clinicians' assessment of curability) with the key variables in the study – preoccupation with death and psychological distress (depression, anxiety and depressive coping style) was determined. When comparing a dichotomous/nominal variable in two patient groups, the exact Fisher test (chi-square) was used. When comparing continuous variables, the *t*-test was used for group differences. Pearson correlations were used to analyse the association between two continuous variables. In the third and final step, we used multiple regression analyses to pin down the effects between the three variables in question (controlling for age and gender): the diagnosis (life-threatening or not), preoccupation with death and psychological distress.

RESULTS

Participants

One hundred and two of the 127 patients with haematologic malignancies and 33 of the 38 control patients who were approached participated in the study. Twenty-five patients with haematologic malignancies and 5 control

patients declined to participate because of lack of interest. Thus, the study achieved a response rate of 80.3% for patients with haematologic malignancies and 86.8% for the control patients. Since 11 patients with haematologic malignancies and 4 control patients dropped out during the study, the database of this report contains 91 completed datasets for the patient group and 29 for the control group at the first assessment point (T1). Reasons for dropout are shown in Table 1. At the second assessment point (T2 ≥ 4 weeks) only 45 completed datasets for patients with haematologic malignancies were collected because of a high transfer rate from inpatient to outpatient settings.

Haematologic malignancies

The target patient group suffered from the following haematologic malignancies: acute myeloid leukaemia (32%), acute lymphoblastic leukaemia (13%), chronic myeloid leukaemia (9%), chronic lymphocytic leukaemia (8%), non-Hodgkin's lymphoma (30%), Hodgkin's lymphoma (6%), myelodysplastic syndrome (3%).

Socio-demographics

The characteristics of the 91 patients with haematologic malignancies and the 29 patients in the control group are listed in Table 2. Compared with the literature on cancer epidemiology, the patients in this study were relatively young (median: 48 years). Patients in the control group were of comparable age (median: 52 years) [$t(119) = 0.803$, $P < 0.42$]. Whereas in the patient group with haematologic malignancies there is a similar number of male (52%) and female participants (48%), there are significantly more female (69%) than male (31%) participants in the control group ($\chi^2 = 5.4$, $P < 0.02$).

Table 1. Reason for dropout/exclusion from study for patients with haematologic malignancies and the control group of patients with benign disease (Benign)

Reason for dropout/exclusion	Haematologic malignancies		Benign	
	<i>n</i> (all: 36)	%	<i>n</i> (all: 9)	%
No interest	25	69	5	56
Poor general performance	3	8	0	0
Change of interest	2	6	0	0
Discharge	2	6	0	0
Sudden death	1	3	0	0
Sudden appearance of exclusion criteria	3	8	4	44

Table 2. Characteristics of the patient group with haematologic malignancies and the control group of patients with benign diseases (Benign)

Demographic characteristics	Haematologic malignancies		Benign	
	<i>n</i>	%	<i>n</i>	%
Age (year)				
Mean	46.70		49.10	
Median	48		52	
18–30	14	15	4	14
31–45	29	32	8	28
46–60	33	36	10	35
61–75	15	17	7	24
Sex				
Male	47	52	9	31
Female	44	48	20	69
In a relationship				
yes	65	77	20	71
no	19	22	8	29
Have children				
No	30	36	6	21
1–2	43	51	19	68
3–5	11	13	3	11
Highest education level				
No school graduation	1	1	0	0
Primary/secondary school	55	65	17	60
High school	8	10	3	11
University	20	24	8	29
Employment				
Full-time	37	41	7	26
Part-time	14	15	9	33
Disabled	7	8	3	11
Retired	27	30	8	30

Disease-related variables

The results of the scales used to assess disease-related variables in the cancer group are listed in Table 3. Patients' mean Karnofsky index remained stable from T1 (84.2) to T2 (85.6). At T2 (mean: 6.73 weeks after T1; SD = 3.19), the majority of patients was in remission (complete 42%, partial 13%), but the status of one-third of the patients was still not assessable. Physicians estimated 72% of the patients with haematologic malignancies as curable at T1. All patients were treated with curative intent.

Preoccupation with death and medical status

Statistical analyses of the prevalence of preoccupation with death as assessed with the subscale 'subjective closeness to death' of the self-rating questionnaire SEKT revealed that patients with haematologic malignancies (mean: 2.45, S.D. 1.75, range 0–6) had significantly more intense preoccupations with death than did the control group (mean: 1.52, S.D. 1.38, range 0–5) [$t(118) = 2.4, P =$

Table 3. Disease-related variables in the patient group with haematologic malignancies

Disease-related variables	No. of patients	
	<i>n</i>	%
Overall	91	100
Acute lymphoblastic leukaemia (ALL)	12	13
Acute myeloid leukaemia (AML)	29	32
Chronic myeloid leukaemia (CML)	8	9
Chronic lymphocytic leukaemia (CLL)	7	8
Non-Hodgkin's lymphoma (NHL)	27	30
Hodgkin's lymphoma (HL)	5	6
Myelodysplastic syndrome (MDS)	3	3
Newly diagnosed patients	58	64
Distance to diagnosis		
<1 month	19	35
Between 1 and 6 months	22	40
Between 6 months and 1 year	9	16
Between 1 and 5 years	3	6
>5 years	2	4
Relapsed patients	33	36
Distance to relapse diagnosis		
<1 month	0	0
Between 1 and 6 months	1	3
Between 6 months and 1 year	6	20
Between 1 and 5 years	11	37
>5 years	12	40
Karnofsky-Index at T1	91	
	Mean: 84.2	
	S.D.: 14.4	
Karnofsky-Index at T2	45	
	Mean: 85.6	
	S.D.: 17.26	
Remission Status at T2	40	88
0 not estimable	14	31
1 complete remission	19	42
2 partial remission	6	13
3 minor remission	0	0
4 stable disease	1	2
5 progressive disease	5	11
Physicians' estimation of curability at T1	88	100
1 curable	63	72
2 not curable	25	28

0.018]. Patients with haematologic malignancies had significantly less intense preoccupations with death at T2 as compared with T1 (mean: 2.13, S.D. 1.65) [$t(118) = 2.2, P < 0.037$]. There was also a significant positive relation between age and preoccupation with death in both groups: patients with haematologic malignancies at (T1): $r = 0.23, P = 0.031$; at (T2): $r = 0.37, P = 0.024$; control patients (T1): $r = 0.40, P = 0.03$. Regarding the relationship between subjective and objective closeness to death in patients with haematologic malignancies at T2, the following two associations exist: the more progressive the cancer (remission status) the closer patients subjectively felt to death ($r = 0.53, P = 0.009$). If physicians

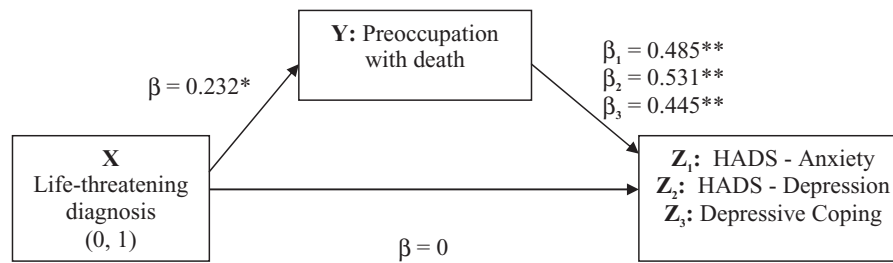


Figure 1. Conceptual model of the relationship between diagnoses of illness (benign non-life-threatening vs. malign life-threatening), preoccupation with death and psychological distress (anxiety, depression, depressive coping). Significant effects show that patients with haematologic malignancies have more preoccupation with death and in these patients preoccupation with death predicts emotional distress.

rated the disease as incurable subjects felt closer to death ($r = 0.37$, $P = 0.025$).

Preoccupation with death and psychological distress

Overall, patients with haematologic malignancies do not differ from the control group in depressive coping, depression or anxiety when comparing the mean values of the subscales ($P > 0.1$). The number of individuals who according to their scores (value ≥ 8 in the HADS) suffer from psychological distress are as follows: 38% of patients with haematologic malignancies have signs of depression (36% of the control patients) and 34% experience high levels of anxiety (22% of control patients). Anxiety [$t(45) = 2.8$, $P = 0.008$], but not depression ($P > 0.1$), decreases significantly among patients with haematologic malignancies from T1 to T2. At T1 preoccupation with death correlates significantly with HADS-anxiety ($r = 0.494$, $P = 0.0001$), HADS-depression ($r = 0.555$, $P = 0.0001$) and depressive coping ($r = 0.379$, $P = 0.001$). At T2 (with fewer subjects included) these associations are as follows: preoccupation with death correlates significantly with HADS-anxiety ($r = 0.397$, $P = 0.022$), HADS-depression ($r = 0.438$, $P = 0.011$), and depressive coping ($r = 0.344$, $P = 0.037$). Comparable associations are not found for the control patient group ($P > 0.1$).

Effects between diagnosis, preoccupation with death and psychological distress

We tested a conceptual model (Fig. 1) employing a stepwise regression analysis. Several effects between the variables of interest (including age and gender as predictors) were found: The diagnosis of a potentially life-threatening illness as compared with a benign diagnosis leads to more intense preoccupation with death ($X \rightarrow Y$) ($F(3, 116) = 5.46$, $\beta = 0.232$, $P = 0.012$). Older age (but not gender) is also a predictor of the feeling of closeness to death ($\beta = 0.259$, $P = 0.004$). Diagnosis of illness (haematologic malignancy = 1 vs. benign illness = 0) does not affect emotional well-

being ($X \rightarrow Z$) (no beta coefficient is significant). Preoccupation with death, however, affects emotional well-being significantly only in the group of patients with haematologic malignancies ($Y \rightarrow Z$). More intense preoccupation with death leads to higher values of self-reported depression ($F(3, 83) = 12.48$, $\beta = 0.531$, $P = 0.001$), anxiety ($F(3, 83) = 6.2$, $\beta = 0.485$, $P = 0.001$), as well as to more depressive coping [$F(3, 78) = 5.69$, $\beta = 0.445$, $P = 0.001$].

DISCUSSION

To the best of our knowledge this is the first study that quantitatively assesses preoccupation with death and its relation to psychological distress in patients with haematologic malignancies. Although these patients are all treated with curative intent and are informed about this goal, they nevertheless feel subjectively closer to death than a control group of patients diagnosed with a benign disease. Although at first glance these results might seem to be self-evident, our search of the literature shows that these findings are the first quantitative indication of preoccupation with death in curatively treated patients with haematological malignancies. Our study also shows that those individuals who have more intense preoccupation with death also have higher levels of psychological distress. These results document that the closer to death patients with a life-threatening disease feel, the more depressive coping styles they exhibit and the more depressed and anxious they are. This points to the need for more attention in clinical settings regarding the subjective exposure to death in cancer patients who are not terminally ill.

According to Little *et al.* (1998) cancer patients experience liminality, the feeling of having reached a certain point in life that limits lifetime, different from the normal aging process, an illness-related process that begins with the first manifestation of malignancy. Our results show that despite the onset of a curative therapy

preoccupation with death prevails. Moreover, this experienced closeness to death is related to psychological distress. The prevalence of anxiety (34%) and depression (38%) as measured with the HADS (a score >8) in our study shows that a considerable amount of the patients with haematologic malignancies were psychologically distressed. The prevalence of anxiety and depression within cancer patients varies considerably depending on the diagnostic system used, whether they are in- or out-patients, but roughly can be estimated as ranging between 20% to 50% (Skarstein *et al.* 2000; Reuter *et al.* 2007). Patients with leukaemia and lymphoma also develop high levels of anxiety and depression (Montgomery *et al.* 2003). As compared with non-curable cancers, however, the respective scores are lower (Greer 1991). The findings that both patients with haematologic malignancies as well as the control patients suffer considerably from anxiety and depression on a clinically relevant level are in accordance with the findings of Schwarz (1996), who pointed out that psychiatric diagnoses among a heterogeneous group of cancer patients does not differ significantly from the normal population in Germany. Additionally, the high prevalence of psychological distress found in the control group could reflect the high impact of pain that most of these patients experienced undergoing pain treatment. Our results of a relation between preoccupation with death and psychological distress are at odds with recent studies in patients with advanced cancer. Lichtenthal *et al.* (2009), for example, showed that closeness to death in cancer patients was not associated with higher rates of mental disorders. Although the authors concluded that their results do not provide support for the common clinical assumption that the prevalence of depression and anxiety increases as death comes closer, patients who felt subjectively closer to death nevertheless exhibited increased existential distress and more physical symptoms; they were more likely to acknowledge being terminally ill, and they were more likely to report an increased wish to die.

Investigations show that psychological distress reaches its highest levels at the beginning of a therapy (Faller *et al.* 1999; Krischke & Petermann 2000). We also observed that anxiety as well as subjective closeness to death decreased from the time of admission (T1) to the second assessment at least 4 weeks after admission (T2). Since patients were informed about their remission or progression status at T2, we tentatively propose that an increase in hope (55% patients in remission; 11% in progression; 31% not assessable) leads to the belief of a more probable escape from death, which in turn leads to a reduction of negative emotions. Physicians' assessment most likely had an influ-

ence on patients' subjective closeness to death. At T2 we detected that the more progressive or incurable the disease was estimated to be (remission status, physicians' prognosis) the closer to death patients with haematologic malignancies felt.

Limitations and implications

Our cross-sectional and prospective research study employed to a great extent validated and standardised instruments to assess psychological distress as well as established biomedical factors describing objective closeness to death (medical diagnosis, remission and progression status, performance status). Among the limitations of our study is the small sample size, i.e. several subgroups of patients with haematologic malignancies being low in number. Another limitation of this study is that we did not assess what patients had subjectively understood when they had been told by their physician about the prognosis of their illness. However intriguing this further information would be, in our study we were focused on assessing the existence of preoccupation with death and its relation to psychological distress in a patient population that is treated with curative intent.

More research is needed to establish the concept of subjective closeness to death among cancer patients and patients with haematologic malignancies in order to develop standardised diagnostic instruments. It is essential to identify individuals who experience clinically significant levels of death awareness in order to provide adequate psychological strategies, which support both patients and the attending physicians in dealing with patients' concerns. Even patients who do not reach the level of clinical diagnosis may benefit from interventions designed to alleviate distress associated with subjective awareness of both death and disease progression (Gruber *et al.* 2000). Psychological distress in patients with cancer can manifest itself through a variety of symptoms, i.e. in a distortion in the experience of time as an indicator of anxiety (Wittmann *et al.* 2006). Through the assessment of preoccupation with death as well as by providing special treatment and support one could prevent severe psychological distress. Although clinicians are under considerable time constraints, one should take into account that psychological distress can influence the patients' compliance and interfere with treatment. The results of this study will be useful in the development of new screening tools to help health professionals detect cancer patients' suffering from an often unvoiced subjective closeness to death and, thereby, prevent complications during treatment because of severe mental distress.

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