



## Systematic Review

# Three phases of cancer in the process of mental trauma: Diagnosis, treatment, survival

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### Abstract

**Objectives:** Cancer tends to trigger a psychological response that represents a form of traumatic stress. Regardless of the nature of the noxious agent, therapeutic interventions conducted for the treatment of any post-traumatic reaction must take into consideration the tri-phasic structure of adaptation (i.e. shock, mourning and integration) in defining a balanced response to a vital threat. This paper aims to gather evidence on the psychosocial dimension of cancer by applying a three-phase approach model.

**Methods:** To fulfill the stated aim, systematic reviews and meta-analyses on non-experimental studies published in the last 15 years were screened using the following databases: CINAHL, Pubmed, Cochrane, Joanna Briggs Institute, Ulakbim, and Google Scholar. Overall, 33 reviews met the inclusion criteria.

**Results:** The obtained data, which included findings on different types of cancer and different psychiatric reactions, disclose the presence of a psychological trauma process that occurs in response to physical illness.

**Conclusion:** The mental trauma process was studied and is discussed in three phases, namely, diagnosis, treatment and post-treatment.

**Keywords:** Cancer; non-experimental studies; psycho-oncology; psychological trauma.

The World Health Organization (WHO) has recommended that psychosocial components of oncologic care be included as part of every national cancer care program.<sup>(1)</sup> The wide variation of conditions related to cancer, in terms of organ distribution, clinical course and treatment response, makes it challenging to identify common points in psycho-oncological research. To gain a more holistic understanding, in the present review, the experience of having cancer is considered as a process of psychological trauma. Regardless of the nature of the noxious agent, therapeutic interventions for the treatment of post-traumatic reactions usually apply a tri-phasic structure of shock, mourning and integration to describe the adaptation to a vital threat. Taking this structure as premise, this paper has aimed to gather evidence on an alternative three-phase model to address the psychosocial

components of patients with cancer. With such evidence, the hope is to reduce the number of confounding factors in future research studies on psychosocial intervention for patients with cancer.

### Method

CINAHL, Pubmed, Cochrane, Joanna Briggs Institute, Google Academic, and Ulakbim databases were screened using the key words, "psychosocial problems and cancer, psychosocial needs and cancer, psychosocial experiences and cancer, oncology patients, cancer patients, and psycho-oncology". The search was limited to systematic reviews and meta-analyses published between "2000-2015". Papers devoted to interventional and experimental studies were not included in the eval-

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uation. Thirty-three reviews met the inclusion criteria (Table 1 and Table 2). The number of studies considered in each review is shown in parenthesis as “n”.

## Results and Discussion

### Common Psychiatric Disorders in Cancer

As a first step, the prevalence of certain psychiatric disorders associated with cancer is presented. The most common disorders include depression and anxiety and post-traumatic stress disorder (PTSD) (Table 1).

### Depression and Anxiety

According to the findings of 211 studies,<sup>[2]</sup> the rate of depression ranged between 8-24%, varying upon the type of cancer, the duration of treatment period, and the measurement tool employed. One year after diagnosis was made, the rate of de-

pression was 9-21%, depending on the assessment method (i.e. diagnostic interview or self-report). The highest rates were observed during treatment, where according to interviews, the rate was 14% and according to self-reports it was 27%. More specifically, the rates of depression were 3% for lung cancer (interview), 28% for brain cancer (self-report), 7% for skin cancer (interview), and 31% for gastrointestinal system cancer (self-report). In 18 studies conducted on newly diagnosed ovary cancer patients,<sup>[3]</sup> this rate was between 21-25% (n=12). The prevalence of depression decreased three months after the completion of treatment. However, at this point, with the shift in condition, anxiety was shown to affect 47% of patients (n=1).

In cancer patients experiencing pain at any stage of the disease, the prevalence of depression (n=4) was close to the general average of populations with cancer (36.5%).<sup>[4]</sup> The

**Table 1. Common psychiatric disorders in cancer**

Author/s and date	Number of primary studies	Sample	Outcome measures	Results
Krebbler AMH, Buffart LM, Kleijn G, et al. 2014	211 studies	Various types of cancer patients	Depression	Depression: 8-24% One year after the diagnosis: 9-21% During treatment: 14% (interview) -27% (self-report) 3% for lung, 28% for brain, 7% for skin, 31% for gastrointestinal system cancer
Arden-Close E, Gidron Y, Moss-Morris R. 2008.	18 studies	Ovarian cancer patients	Psychological distress	Depression: 21-25% Anxiety: 47%
Laird BJA, Boyd AC, Colvin LA, Fallon MT. 2009.	14 studies	Various types of cancer patients	Depression and cancer pain	The prevalence of depression (with pain): 36.5%
Tang P, Wang H, Chou FA. 2015.	7 studies	Various types of cancer patients	Demoralization and depression	Depression was elevated in particular when demoralization was common. There was a negative relationship between distress and quality of life.
Tau LT, Chan SW. 2011.	15 studies	Colorectal cancer patients	Quality of life	Depression, distress and physical problems associated with the intestines (such as constipation and diarrhea), and being young and female were inversely proportional to quality of life.
Abbey G, Thompson S, Hickish T, Heathcote DA. 2015.	25 studies	Various types of cancer patients	Post-Traumatic Stress Disorder (PTSD)	PTSD:6.4% for current, 2.6% for lifetime and for breast cancer patients, 5.8% for current and 11.5% for lifetime.
Shand LK, Cowlshaw S, Brooker JE, et al. 2015.	PTSD: 26 studies, PTG: 48 studies	Various types of cancer patients	PTSD, PTG	Moderate relationship between PTSD and depression Moderate relationship between PTG and religious coping, spirituality, positive reappraisal and social support Positive relationship between PTSD and PTG

PTSD: Post-Traumatic Stress Disorder; PTG: Post-traumatic growth.

**Table 2. Diagnosis, treatment, post-treatment and recovery periods**

<b>Coping with the diagnosis</b>				
<b>Author/s and date</b>	<b>Number of primary studies</b>	<b>Sample</b>	<b>Outcome measures</b>	<b>Results</b>
Franks HM, Roesch SC. 2006.	25 studies	Various types of cancer patients	Coping strategies	Individuals who perceive physical disease as a threat utilize problem-focused coping strategies. Those who see it as a harm or loss develop an avoidant type of reaction. Others who consider it as a challenge employ confrontation type of coping strategies (challenge appraisal).
Pullens MJJ, Vries JD, Roukema JA. 2010.	27 studies	Breast cancer patients	Subjective cognitive impairment (SCI)	SCI: 21-90%. A relationship between the rate of SCI and different modalities of treatment (RT, CT, HT) A moderate relationship between SCI and anxiety A moderate relationship between SCI and depression
Nicholls W, Hulbert-Williams N, Bramwell R. 2014.	10 studies	Various types of cancer patients	Psychosocial adjustment	Secure interpersonal attachment style was associated with better psychosocial adjustment. Individuals with insecure attachment styles were less prone to accept support and they evaluated social interactions as less supporting and helpful.
Luckett T, Goldstein D, Butow PN, et al. 2011.	21 studies	Various types of cancer patients	Psychological morbidity and quality of life	Lower quality of life, higher levels of depression and distress (Hispanic patients)
Hullmann SE, Robb SL, Rand KL. 2015.	27 studies	Various types of cancer patients	Life goals	Cancer experience was influential on their life aims, particularly among younger individuals. This led to adverse psychosocial consequences and alterations to the content of life aims.
<b>The period of treatment</b>				
<b>Psychological reaction to treatment</b>				
<b>Author/s and date</b>	<b>Number of primary studies</b>	<b>Sample</b>	<b>Outcome measures</b>	<b>Results</b>
Krebber AMH, Buffart LM, Kleijn G, et al. 2014	211 studies	Various types of cancer patients	Depression	Highest level during the treatment period
Singer S, Das-Munshi J, Braehler E. 2010.	8 studies	Various types of cancer patients	Psychiatric disorder	31% 23% for Turkish breast cancer patients 53% for various types of elderly cancer patients from Uganda Mean prevalence: 31.7%
Hess CB, Chen AM. 2014.	83 studies	Various types of cancer patients	Psychosocial functioning	Decline in psychosocial functions: 20%, 36% and 25% before, during and after RT. Prior to RT, anxiety level 20%, 15% after the onset of RT Depression level: 17% during RT, 27% following RT
Ching LC, Devi MK, Emily ANK. 2010.	7 studies	Breast cancer patients	Anxiety	Higher prior to the first CT infusion and in younger patients Patients who underwent mastectomy: 20.6% Patients receiving breast-conserving treatment: 15%

**Table 2. Diagnosis, treatment, post-treatment and recovery periods (cont.)**

The period of treatment				
Psychological reaction to treatment				
Author/s and date	Number of primary studies	Sample	Outcome measures	Results
Maddineni SB, Lau MM, Sangar VK. 2009.	6 studies	Penile cancer patients	Psychosocial wellbeing	Impairment of wellbeing: 40%, Anxiety: 31% Psychiatric disorders: 53% Decrease in sexual satisfaction: 67%
Christie DRH, Sharpley CF, Bitsika V. 2015.	28 studies	Localized prostate cancer patients	Regret after treatment and the reasons	The most common causes: treatment toxicity, sexual and urinary functions Factors increasing the sense of regret: long-lasting treatment processes, low level of education, intestinal dysfunction, radical prostatectomy
Moore KA, Ford PJ, Farah CS. 2014.	31 studies	Oral cancer patients	The needs and life quality of patients	The prevalence of depression: 18-25% in post-treatment period. High rate of depression had negative impact on physical well-being, functions and quality of life.
Supportive care				
Author/s and date	Number of primary studies	Sample	Outcome measures	Results
Butow PN, Phillips F, Schweder J, et al. 2012.	25 studies	Various types of cancer patients	Psychosocial well-being and supportive care needs	Information, financial and transportation support need: 5-30% Higher levels of anxiety, depression and distress and worse mental functions and lower quality of life (For patients who had recovered from cancer)
Luszczynska A, Pawlowska I, Cieslak R, et al. 2013.	14 studies	Lung cancer patients	Social support and quality of life	Health professionals' support: 67% positive effect for quality of life; family or friends' support: 53%
Nausheen B, Gidron Y, Peveler R, Moss-Morris R. 2009.	31 studies	Various types of cancer patients	Social support and cancer progression	A strong relationship between social support and progress of the illness. Factors related to the progress of cancer: severity of disease, inadequate treatment, status of tumor, dimension, stage, the presence of metastasis
Fiszer C, Dolbeault S, Sultan S, Brédart A. 2014.	23 studies	Breast cancer patients	Unmet supportive care needs	20-70% Information, fear of recurrence and spread of cancer At least one highly or moderately unmet care need: 20% Information need: 70%
Harrison JD, Young JM, Price MA, et al. 2009.	51 studies	Various types of cancer patients	Unmet supportive care needs	Psychosocial needs (fear associated with spread of cancer, concern about making close ones sad, indeterminacy of future): 6-69%, Information need: 11-97% Physical needs: 7-89%

**Table 2. Diagnosis, treatment, post-treatment and recovery periods (cont.)****Post-treatment and recovery periods**

Author/s and date	Number of primary studies	Sample	Outcome measures	Results
Mitchell AJ, Ferguson DW, Gill J, et al. 2013	43 studies	Various types of cancer patients	Depression and anxiety	Prevalence of anxiety: 17.9% Depression: 11.6%.
Duijts SFA, Egmond MPV, Spelten E, et al. 2014.	20 studies	Various types of cancer patients	Physical and psychosocial problems	Physical and psychosocial problems had a negative impact on work performance and the daily life of the patients.
Foster C, Wright D, Hill H, et al. 2009.	41 studies	Various types of cancer patients	Psychosocial implications	Physical, psychosocial, sexual, social and financial problems and impairment in quality of life: 20-30%
Rychetnik L, McCaffery K, Morton R, Irwig L. 2013.	12 studies	Melanoma cancer patients	Psychosocial statuses	Anxiety, depression, stress and the need of emotional support from clinicians and information regarding disease were established to be present.
Mols F, Vingerhoets JJM, Coebergh JW, Poll-Franse LV. 2005.	10 studies	Breast cancer patients	Quality of life	Adequate level for quality of life Positive predictors of quality of life: positive medical condition, high level of social support and income
Abbott-Anderson K, Kwekkeboom KA. 2012.	34 studies	Gynecological cancer patients	Sexual concerns	In physical dimensions: decrease in sexual activity, changes in vagina and dyspareunia) In psychosocial dimensions: reduction of libido, alterations in body image, anxiety associated with sexual performance In social dimensions: difficulty in maintaining previous sexual roles, emotional estrangement from partner, and concerns about the increase and decrease in the sexual desire of the partner
Crist JV, Grunfeld EA. 2013.	43 studies	Various types of cancer patients	Factors influencing fear of recurrence	Physical symptoms, Breast, colorectal and lung cancer, Breast cancer patients who underwent CT, High levels of anxiety and depression, Younger ages, Being less optimistic, Lower level of physical and psychological quality of life
Falagas ME, Zarkadoulia EA, Ioannidou EN, et al. 2007.	25 studies	Breast cancer patients	Psychosocial factors	Perceived social support, social support, marriage, depression and denial prolonged the duration of survival Stressful life experiences, anxiety/stress, hopelessness, depression and denial /avoidance decreased survival
Swash B, Williams NH, Bramwell R. 2014.	18 studies	Hematological cancer patients	Unmet psychosocial needs	The most marked requirement of patients in the treatment period was associated with fear or recurrence. After the end of treatment: 78% fatigue, 77% anxiety In follow-up period: 61% sexual functions and fertility

intensity of pain (n=5) and its duration (n=2), however, were positively correlated with prevalence of depression (n=14). In the advanced stages of cancer<sup>[5]</sup> (n=5), the prevalence was elevated, particularly when demoralization was common. There was a negative relationship between distress and quality of life (n=2). In colorectal cancer patients at the stage of diagnosis or post-surgical treatment<sup>[6]</sup> (n=15), depression, distress and physical problems associated with the intestines (such as constipation and diarrhea), and being young and female were inversely proportional to quality of life.

### Post-Traumatic Stress Disorder (PTSD)

In cancer patients who were in remission or under treatment<sup>[7]</sup> (n=25), based on clinical interviews (n=12), the prevalences of current and lifetime PTSD were 6.4% and 12.6%, respectively. In the same review, for breast cancer patients (n=10), these rates were 5.8% and 11.5%, respectively. PTSD was common in younger patients who were diagnosed at advanced stages of cancer and who had just completed treatment. In diverse cancers, at stages of remission or in the active disease period<sup>[8]</sup> (n=26), there was a moderate relationship between PTSD and depression (n=11), and a strong positive relationship between anxiety (n=7), distress (n=8), and PTSD. While there was no relationship between PTSD and age (n=12), sex (n=3), and duration of time after diagnosis (n=7), a moderate negative relationship was identified between PTSD and social support (n=4) and physical quality of life (n=7). In the same review<sup>[8]</sup> (n=48), there was a moderate relationship between post-traumatic growth (PTG) and religious coping (n=6), spirituality (n=7), positive reappraisal (n=8) and social support (n=15), a weak positive relationship with optimism (n=7), and a weak negative relationship between PTG and depression (n=19), and distress (n=10). There was no relationship between PTG and physical quality of life (n=7), anxiety (n=7) and duration of time marking the period after the diagnosis was made (n=14). In a re-evaluation of the relationship between PTSD and PTG (n=5), a weak positive relationship was identified in only one study.

Approximately one-third of all cancer patients appear to develop psychiatric complications.<sup>[2]</sup> This proportion points to an increased risk compared to the general population. Physical symptoms, radical interventions, and undesirable side effects of treatment seem to be important in terms of the development of increased psychiatric symptoms and decreased quality of life. As a consequence of the heavy focus on medical and surgical procedures, patients' needs are more often neglected in the treatment period compared to other periods of the illness. Hence, synchronization of psychosocial care with medical/surgical intervention seems to be crucial in the management of cancer patients.

### Coping with the Diagnosis

Franks and Roesch (2006)<sup>[9]</sup> demonstrated that individuals who perceive physical disease as a threat (n=25) tend to utilize problem-focused coping strategies. On the other hand, those who view physical disease as a harm or loss tend to develop

an avoidant type of response, while others who consider it as a challenge benefit from a confrontation type of coping strategy (challenge appraisal). In a review examining subjective cognitive impairment (SCI) involving memory and concentration and the decrease in mental functions and language in women with breast cancer who were under treatment<sup>[10]</sup> (n=27), the prevalence of SCI (n=11) was between 21-90%. In women receiving chemotherapy, the rate of SCI (n=5) was significantly higher than that of women going through check-up visits at different points in time (6 weeks, 3-6 month, 2-4 year). While a relationship was identified between the rate of SCI and different modalities of treatment (radiotherapy (RT), chemotherapy (CT), hormone therapy) (n=4), in 10 studies, no such relationship was identified. There was no relationship identified between SCI and objective cognitive impairment (n=11) either. The latter was interpreted as being attributed to the fact that SCI was an indicator of emotional distress; that is, there was a moderate relationship between SCI and anxiety at the end of chemotherapy and nine months later, and a moderate relationship between SCI and depression six months after treatment.

In a study on couples, where one half (i.e. husband or wife) had recovered from cancer<sup>[11]</sup> (n=10), a secure interpersonal attachment style was associated with better psychosocial adjustment (n=6), whereas individuals with insecure attachment styles were less prone to accept support and evaluated social interactions as less supporting and helpful (n=4). In a review addressing patients with various types of cancer, including those who were in the active stage of the disease and those who were in remission<sup>[12]</sup> (n=21), patients belonging to certain ethnic groups (Hispanic, Asian or Pacific Islander), especially Hispanic patients living in America, had lower quality of life and higher levels of depression and distress than North American patients. The presence of dependable interpersonal and social relations has a positive effect on acceptance of the illness.

In a study on patients who were in either the active treatment period or remission<sup>[13]</sup> (n=27), the cancer experience influenced their life aims (n=8), particularly among younger patients (n=3), leading to adverse psychosocial consequences (n=6) and alterations to the content of life aims. These patients had lower rates of life aims associated with success and leisure activities in particular. Short-term aims were more preponderant than long term ones. The lower rate of success in reaching important life aims resulted in higher levels of anxiety and depression.

Nevertheless, the perception of cancer as a threat seems to trigger an active attitude of coping, which should be considered as a starting point for any psychosocial intervention. Clinicians should be aware that better adjustment to the illness experience depends both on pre-existing coping styles and the presence of secure interpersonal relationships. Hence, it is important that the patient's psychological condition be inquired about, in both the individual and the social context.

Within the individual context, psychosocial interventions may focus on short-term life aims, depending on the stage of the illness, rather than on long-term perspectives.

### The Period of Treatment

The treatment period is usually characterized by hope, despite the diversity in scope of the perceived vital threat. It is crucial that during this period the patient comply with the treatment program and that disruptive reactions that would serve to undermine medical and surgical procedures be prevented.

### Psychological Reaction to Treatment

The rate of depression was at its highest level during the treatment period.<sup>[2]</sup> In a study investigating psychological health status in cancer patients during the diagnosis and treatment periods<sup>[14]</sup> (n=8), of 1448 patients evaluated with standard measurement tools, 456 (31%) were diagnosed as having a psychiatric disorder. The prevalence of psychiatric disorders varied between 23% (Turkish breast cancer patients) and 53% (various types of elderly cancer patients from Uganda), with a mean prevalence of 31.7%.

In 83 studies examining various types of cancer patients in treatment period,<sup>[15]</sup> decline in psychosocial functions was at the rates of 20%, 36% and 25% before, during and after radiotherapy (RT), respectively. Prior to RT, anxiety level (20%) was higher than depression, but decreased after the onset of RT (15%), whereas depression level was high during RT (17%) and following it (27%). Factors leading to a decrease in psychosocial functions included the presence of severe physical side effects, a history of depression, high anxiety levels before RT, being female, and receiving chemotherapy alongside RT.

In a review on breast cancer patients undergoing treatment<sup>[16]</sup> (CT, RT, surgery) (n=7), anxiety level was higher prior to the first CT infusion and in younger patients (n=2). Patients who received RT for a short period (4-6 weeks) had lower anxiety levels during follow-up, (n=1) without any difference in anxiety before and after RT. In breast cancer patients who underwent a mastectomy (n=3), anxiety levels were higher (20.6%) than those who were receiving breast-conserving treatment (15%). Anxiety level was higher in women receiving CT than in those receiving RT.

In a review (n=6) on psychosocial well-being and psychosexual functions of penile cancer patients in the remission period,<sup>[17]</sup> impairment of well-being was seen in 40% (n=2), and anxiety in 31% (n=2). According to one study involving the DSM-III, psychiatric disorders were prevalent in 53% of these patients (n=1). In another study, decrease in sexual satisfaction was reported by 67% of the patients. In a review (n=28) on patients who underwent treatment for localized prostate cancer,<sup>[18]</sup> factors associated with remorse were considered (n=16). Treatment toxicity, especially in sexual (n=8) and urinary functions (n=6), were found to be the most common causes of remorse. Remorse level was found to be highest when sexual and urinary dysfunctions coexisted. Another associated factor was intestinal dysfunction (n=4). Long-lasting treatment processes

(n=3) and low level of education (n=2) were other factors increasing remorse. Remorse level was higher with radical prostatectomy compared to RT (n=5), but the difference was significant only in one study. Similarly, remorse was higher in radical prostatectomy treatment than in brachytherapy (n=7), but the difference was significant only in one study.

In a review (n=31) examining the needs and life quality of patients with oral cancer,<sup>[19]</sup> the prevalence of depression was found to be 18-25% in the post-treatment period (n=3). In 32% of the patients, (n=1) malnutrition occurred in the post-treatment period (surgical, RT, CT). Patients reported that they needed support in coping with the side effects of RT and CT (functional impairment in oral region, dryness of mouth, and swallowing problems) (n=8). The high rate of depression had a negative impact on physical well-being, functions and quality of life.

### Supportive Care

In a review (n=25) of various types of cancer patients who were in the treatment period or in remission,<sup>[20]</sup> 5-30% of those in rural areas needed information, financial, logistic and transportation support for treatment during the active treatment period (n=14). Patients who had recovered from cancer in rural areas had higher levels of anxiety, depression and distress, worse mental functions (n=1) and lower quality of life (n=4). In a review (n=14) on patients who were in treatment and during their follow-up periods,<sup>[21]</sup> support obtained from health professionals was influential on all domains of quality of life (except social dimension), with the support received from family and friends being associated with the emotional dimension of quality of life. The positive effect from the support received from health professionals was higher (67%) than that of the support received from family or friends (53%). In a study on cancer patients who were in treatment, having a recurrence or in the follow-up period<sup>[22]</sup> (n=31), there was a strong relationship between social support and progress of the illness in breast cancer patients (n=7), but there was no sufficient evidence to support such a relationship in other types of cancer. Several variables associated with disease (severity of disease, inadequate treatment, status of tumor, dimension, stage, the presence of metastasis) influenced the progress of cancer. The support offered by health staff during the treatment process and positive financial status facilitated positive moods.

In the review (n=23) by Fiszer et al. (2014)<sup>[23]</sup> on women with breast cancer at all stages, the most common requirement expressed was the provision of information on and assurance against the fear of recurrence and spread of cancer. Unmet need of supportive care varied between 20-70%, and 20% had at least one highly or moderately unmet care need, with the most common need being that for information (70%). Need for support increased in advanced stages of the disease, in the presence of a high number of symptoms, in the time period immediately after the diagnosis, among younger patients and those who had higher stress levels. In another study considering unmet needs of various cancer patients (n=51)<sup>[24]</sup> (6-69%)

psychosocial needs (fear associated with spread of cancer, concern about making close ones sad, indeterminacy of future) remained unmet in the treatment period (n=25), and the need for information (11-97%) and (n=9) physical needs (7-89%) remained unmet in the palliative period, with the highest rate of unmet needs being in the treatment period.

### Post-Treatment and Recovery Periods

According to a review of studies on various types of cancer patients (n=43),<sup>[25]</sup> in patients who had been in remission for a long period (n=10), the prevalence of anxiety was 17.9% and that of depression was (n=16) 11.6%. In another review of various types of cancer patients<sup>[26]</sup> (n=20), physical problems (such as poor health status, functional limitations, arm pain) (n=3) and psychosocial problems (depressive symptoms, burnout, cognitive limitations) (n=6) had a negative impact on work performance. Problems like lack of energy, nausea, hot flashes and coping (n=11) negatively impacted the daily life of the patients. In 41 studies investigating individuals who had recovered from cancer,<sup>[27]</sup> 20-30% of the patients stated that they experienced physical (pain, decrease in physical performance), psychosocial (distress, anxiety, depression), sexual (decrease in sexual desire and satisfaction), social and financial problems and an impairment in quality of life resulting from cancer and its treatment. After five years or more, the problems decreased.

In 12 studies examining the follow-up process after stage I-II melanoma treatment,<sup>[28]</sup> anxiety, depression, stress and the need of emotional support from clinicians and information regarding the disease were established to be present. In 10 studies focusing on women who recovered from breast cancer,<sup>[29]</sup> quality of life was at an adequate level but certain specific problems, such as pain in arm, swelling and sexual dysfunction, were reported. Positive medical condition and high level of social support and income were found to be positive predictors of quality of life, while adjuvant chemotherapy was found to be a negative predictor. In 34 studies investigating women who recovered from gynecological cancer,<sup>[30]</sup> sexual problems were observed in physical (decrease in sexual activity, changes in vagina and dyspareunia); psychosocial (reduction of libido, alterations in body image, anxiety associated with sexual performance) and social dimensions (difficulty in maintaining previous sexual roles, emotional estrangement from partner, and concerns about the increase and decrease about the sexual desire of the partner).

According to 43 studies addressing individuals who had recovered from cancer,<sup>[31]</sup> fear of recurrence was at a higher rate in those with more physical symptoms (n=1), those who had breast, colorectal and lung cancer (n=1), those whose breast cancer was stage II (n=2), those who had breast cancer and underwent CT (n=5), those who had high levels of anxiety and depression (n=5), those who were less optimistic (n=2), those who had lower level of physical and psychological quality of life (n=4) and those who were at younger ages (n=14). In the evaluation by Falagas et al. on 25 studies investigating breast

cancer (2007),<sup>[32]</sup> perceived social support (n=2), actual social support (n=2), marriage (n=3), minimization (i.e. patients who minimized impact of cancer) (n=2), depression (n=1) and denial (n=1) prolonged the duration of survival. Stressful life experiences (n=1), anxiety/stress (n=1), hopelessness (n=1), depression (n=5) and denial /avoidance (n=1) were found to be factors which decreased survival, but this has not been corroborated yet in all studies. Cognitive function (n=1), stressful events (n=1), anxiety (n=1), hopelessness (n=3), and anger/hostility (n=1) were determined to be factors that increased recurrence, while at the same time, stressful events (n=2) and denial (n=1) were also found to be factors that decreased recurrence.

In an analysis including studies on patients with hematological cancer at various stages<sup>[33]</sup> (n=18), it was established that the most marked requirement of patients in the treatment period was associated with fear of recurrence (n=3). After the end of treatment (n=1), fatigue (78%) and anxiety (77%) were established to be issues necessitating help at the highest degree. In the follow-up period (n=1), 61% of younger patients had unmet needs regarding sexual functions and fertility. In addition, 88.8% of patients (n=2) stated that having confidence in the health staff was important for them.

When conducting psychosocial care to cancer patients, it is important that clinicians take the motto, "First do not harm", as a principal guide. This understanding finds its reflection in the careful management of emotions when approaching the cancer patient. Keeping the intensity of emotions within an optimal range is a reasonable strategy.<sup>[34]</sup> Emotional reactions are not restricted to the communication between clinician and patient, but also to the phase of the illness. For example, supportive interventions are preponderate in the treatment period due to the increased emotional load on the patient.

Possible differences between cultures on the usefulness of "confrontation with reality" as a principle of life should be taken into account. Compared to Western Europe and North America, the Turkish culture is more likely to adopt "playing with reality"<sup>[35,36]</sup> as a coping mechanism. Hence, the direct and immediate declaration of the diagnosis of cancer may not be as tolerated by everyone in the same way a more "gradual" approach to a declaration would be. The "window of tolerance" should be properly handled at the time emotions are being processed. An excess of emotions, such as anger and shame, may lead to diverse psychiatric conditions (including reactive paranoid psychosis, "giving up" attitude, and regressive behavior), which would diminish cooperation with the medical and surgical interventions involving long-term care. Although these kinds of psychiatric problems seem to subside to a certain extent after a positive treatment outcome, they may be replaced by others, including fear of recurrence in the post-treatment period. From the psychotherapeutic point of view, broadening of life interests would assist the patient in escaping from a cognitive and emotional constriction and from obsessive ruminations. Treatment methods such as Eye

Movement Desensitization and Reprocessing (EMDR) may be implemented in the further processing of such concerns.

## Conclusion

Lastly, considering that this overview of reviews and meta-analyses focused on diverse types of populations with cancer, a distinction between study populations regarding the period of medical and/or surgical intervention (diagnosis, treatment, follow-up) would assist future studies in obtaining more homogenous samples in terms of psychosocial problems, as well as more robust findings on the identification of the most effective intervention strategies.

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## References

- Boyle P, Levin B. Dünya kanser raporu. Uluslararası Kanser Araştırmaları Kurumu. Lyon; 2008.
- Krebber AM, Buffart LM, Kleijn G, Riepma IC, et al. Prevalence of depression in cancer patients: a meta-analysis of diagnostic interviews and self-report instruments. *Psychooncology* 2014;23:121–30. [CrossRef]
- Arden-Close E, Gidron Y, Moss-Morris R. Psychological distress and its correlates in ovarian cancer: a systematic review. *Psychooncology* 2008;17:1061–72. [CrossRef]
- Laird BJ, Boyd AC, Colvin LA, Fallon MT. Are cancer pain and depression interdependent? A systematic review. *Psychooncology* 2009;18:459–64. [CrossRef]
- Tang PL, Wang HH, Chou FH. A Systematic Review and Meta-Analysis of Demoralization and Depression in Patients With Cancer. *Psychosomatics* 2015;56:634–43. [CrossRef]
- Tau LT, Chan SW. Exploring the quality of life and the impact of the disease among patients with colorectal cancer: A systematic review. *JB Libr Syst Rev* 2011;9:2324–78. [CrossRef]
- Abbey G, Thompson SB, Hickish T, Heathcote D. A meta-analysis of prevalence rates and moderating factors for cancer-related post-traumatic stress disorder. *Psychooncology* 2015;24:371–81. [CrossRef]
- Shand LK, Cowlshaw S, Brooker JE, Burney S, et al. Correlates of post-traumatic stress symptoms and growth in cancer patients: a systematic review and meta-analysis. *Psychooncology* 2015;24:624–34. [CrossRef]
- Franks HM, Roesch SC. Appraisals and coping in people living with cancer: a meta-analysis. *Psychooncology* 2006;15:1027–37. [CrossRef]
- Pullens MJ, De Vries J, Roukema JA. Subjective cognitive dysfunction in breast cancer patients: a systematic review. *Psychooncology* 2010;19:1127–38. [CrossRef]
- Nicholls W, Hulbert-Williams N, Bramwell R. The role of relationship attachment in psychological adjustment to cancer in patients and caregivers: a systematic review of the literature. *Psychooncology* 2014;23:1083–95. [CrossRef]
- Luckett T, Goldstein D, Butow PN, GebSKI V, et al. Psychological morbidity and quality of life of ethnic minority patients with cancer: a systematic review and meta-analysis. *Lancet Oncol* 2011;12:1240–8. [CrossRef]
- Hullmann SE, Robb SL, Rand KL. Life goals in patients with cancer: a systematic review of the literature. *Psychooncology* 2016;25:387–99. [CrossRef]
- Singer S, Das-Munshi J, Brähler E. Prevalence of mental health conditions in cancer patients in acute care—a meta-analysis. *Ann Oncol* 2010;21:925–30. [CrossRef]
- Hess CB, Chen AM. Measuring psychosocial functioning in the radiation oncology clinic: a systematic review. *Psychooncology* 2014;23:841–54. [CrossRef]
- Ching LC, Devi MK, Kim Emily DNurs AN. Anxiety in patients with breast cancer undergoing treatment: a systematic review. *JB Libr Syst Rev* 2010;8:1016–57. [CrossRef]
- Maddineni SB, Lau MM, Sangar VK. Identifying the needs of penile cancer sufferers: a systematic review of the quality of life, psychosexual and psychosocial literature in penile cancer. *BMC Urol* 2009;9:8. [CrossRef]
- Christie DR, Sharpley CF, Bitsika V. Why do patients regret their prostate cancer treatment? A systematic review of regret after treatment for localized prostate cancer. *Psychooncology* 2015;24:1002–11. [CrossRef]
- Moore KA, Ford PJ, Farah CS. Support needs and quality of life in oral cancer: a systematic review. *Int J Dent Hyg* 2014;12:36–47.
- Butow PN, Phillips F, Schweder J, White K, et al; Clinical Oncological Society of Australia. Psychosocial well-being and supportive care needs of cancer patients living in urban and rural/regional areas: a systematic review. *Support Care Cancer* 2012;20:1–22. [CrossRef]
- Luszczynska A, Pawlowska I, Cieslak R, Knoll N, et al. Social support and quality of life among lung cancer patients: a systematic review. *Psychooncology* 2013;22:2160–8. [CrossRef]
- Nausheen B, Gidron Y, Peveler R, Moss-Morris R. Social support and cancer progression: a systematic review. *J Psychosom Res* 2009;67:403–15. [CrossRef]
- Fischer C, Dolbeault S, Sultan S, Brédart A. Prevalence, intensity, and predictors of the supportive care needs of women diagnosed with breast cancer: a systematic review. *Psychooncology* 2014;23:361–74. [CrossRef]
- Harrison JD, Young JM, Price MA, Butow PN, et al. What are the unmet supportive care needs of people with cancer? A systematic review. *Support Care Cancer* 2009;17:1117–28.
- Mitchell AJ, Ferguson DW, Gill J, Paul J, et al. Depression and anxiety in long-term cancer survivors compared with spouses and healthy controls: a systematic review and meta-analysis. *Lancet Oncol* 2013;14:721–32. [CrossRef]
- Duijts SF, van Egmond MP, Spelten E, van Muijen P, et al.

- Physical and psychosocial problems in cancer survivors beyond return to work: a systematic review. *Psychooncology* 2014;23:481–92. [\[CrossRef\]](#)
27. Foster C, Wright D, Hill H, Hopkinson J, et al. Psychosocial implications of living 5 years or more following a cancer diagnosis: a systematic review of the research evidence. *Eur J Cancer Care (Engl)* 2009;18:223–47. [\[CrossRef\]](#)
28. Rychetnik L, McCaffery K, Morton R, Irwig L. Psychosocial aspects of post-treatment follow-up for stage I/II melanoma: a systematic review of the literature. *Psychooncology* 2013;22:721–36. [\[CrossRef\]](#)
29. Mols F, Vingerhoets AJ, Coebergh JW, van de Poll-Franse LV. Quality of life among long-term breast cancer survivors: a systematic review. *Eur J Cancer* 2005;41:2613–9. [\[CrossRef\]](#)
30. Abbott-Anderson K, Kwekkeboom KL. A systematic review of sexual concerns reported by gynecological cancer survivors. *Gynecol Oncol* 2012;124:477–89. [\[CrossRef\]](#)
31. Crist JV, Grunfeld EA. Factors reported to influence fear of recurrence in cancer patients: a systematic review. *Psychooncology* 2013;22:978–86. [\[CrossRef\]](#)
32. Falagas ME, Zarkadoulia EA, Ioannidou EN, Peppas G, et al. The effect of psychosocial factors on breast cancer outcome: a systematic review. *Breast Cancer Res* 2007;9:R44. [\[CrossRef\]](#)
33. Swash B, Hulbert-Williams N, Bramwell R. Unmet psychosocial needs in haematological cancer: a systematic review. *Support Care Cancer* 2014;22:1131–41. [\[CrossRef\]](#)
34. Siegel D. *The developing mind*. New York: Guilford; 1999.
35. Şar V, Öztürk E. What is trauma and dissociation? *Journal of Trauma Practice* 2005;4:7–20. [\[CrossRef\]](#)
36. Öztürk E, Şar V. The trauma-self and its resistances in psychotherapy. *Journal of Psychology and Clinical Psychiatry* 2016;6:00386.