

Review

Psychological symptoms in cancer patients: a systematic review (2000-2023)

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Abstract: Cancer profoundly impacts patients' psychological well-being, yet comprehensive synthesis regarding mental health symptoms and contributing psychosocial factors remains limited. This systematic review synthesizes global evidence published between 2000 and 2023 on the psychological outcomes experienced by cancer patients and their associated clinical and psychosocial drivers. Conducted in accordance with PRISMA 2020 guidelines, electronic searches across PubMed, ScienceDirect, and Google Scholar yielded 24 eligible studies (23 peer-reviewed articles and one dissertation) in English and Turkish. Due to methodological heterogeneity, data were integrated using a narrative synthesis. Results revealed that depression, anxiety, general distress, adjustment disorders, post-traumatic stress symptoms, fear of recurrence, and social isolation are highly prevalent throughout the continuum of care. Crucially, cancer-related stigma identified as a major psychosocial determinant, significantly compounding depressive symptoms, body image disturbance, reduced self-esteem, and social withdrawal. Furthermore, unaddressed distress directly impaired treatment adherence, coping mechanisms, and overall quality of life. These findings highlight that psychological assessment must be routinely integrated into standard multidisciplinary oncology care to enable early detection and targeted intervention. Future research should prioritize longitudinal methodologies and standardized evaluation tools to track symptom trajectories and test intervention efficacy.

Keywords: psycho-oncology; mental health; quality of life; stigma; distress; coping

1. Introduction

According to the World Health Organization, the psychosocial approach to cancer is delineated as a series of interventions directed at mitigating the challenges arising from cancer and its treatment modalities, while concurrently enhancing the overall quality of life for both the patient and their immediate family [1]. Research in the fields of psycho-oncology and psychiatric oncology has established that psychosocial and psychiatric issues are pervasive among individuals coping with cancer, exerting a detrimental influence on patients' treatment adherence and their overall quality of life [2]. Consequently, psycho-oncological treatment has become an integral facet of holistic cancer care, focusing on the amelioration of psychological symptoms, including anxiety and depression [3]. It is of paramount significance to provide consistent and comprehensive psychosocial support throughout all phases of cancer treatment, not only for the patient but also for their family.

Within the course of cancer, a considerable majority of patients experience mental disorders in response to their disease diagnosis or the treatments administered. The diagnosis of cancer itself constitutes a highly distressing life event, typically accompanied by a constellation of both physical and mental symptoms [4]. Notably, psychiatric symptoms that manifest subsequent to a cancer diagnosis hold the potential to exert significant influence over the

progression and severity of the cancer, the patient's overall quality of life, their responsiveness to treatment, and their adherence to prescribed medical regimens [1]. According to the World Cancer Report, cancer patients contend with stress levels that surpass those observed in the general population. It is highlighted that roughly one-third of cancer patients endure chronically elevated stress levels, which demonstrably impede the course of the disease and complicate adherence to treatment protocols [5]. The field of psycho-oncology encompasses a diverse array of symptoms and disorders, extending beyond the realm of emotional distress associated with cancer. This expansive category encompasses a wide spectrum of manifestations, including anxiety, fear, diminished self-esteem, anger, shame, and other symptoms that collectively form a construct too multifaceted to be confined to the sole descriptor "psychological" [6]. It is important to recognize that a patient's capacity to cope with the stressors stemming from cancer hinges on a complex interplay of factors, including the nature and duration of symptoms, the type, stage, and trajectory of the disease, the patient's historical adaptability to previous health challenges, rehabilitative potential, personality characteristics, problem-solving strategies, cultural and religious beliefs, the availability of emotional support within the patient's social context, and the influence of healthcare professionals [1].

The psychological adaptation process to terminal illness has historically been framed through Kübler-Ross's (1969) five stages of grief-denial, anger, bargaining, depression, and acceptance-which often manifest across diagnosis, treatment, and disease progression phases [7]. This framework is structured to correspond with the phases of treatment, remission, relapse, and the terminal period, elucidating that each stage is associated with a unique set of psychological symptoms [1]. As per the Turkish Mental Health Profile (1998) table, the prevailing mental disorder among cancer patients is somatoform disorder. Within this disorder, patients may exhibit a pre-existing pain threshold or demonstrate the emergence of pain correlated with emotional stress, depression, anxiety, uncertainty, and despair. In essence, the journey through cancer is often accompanied by emotional distress, irrespective of the presence of tumors and the nature of therapeutic interventions [6]. Furthermore, clinical depression represents another prevalent mental disorder in cancer patients, with one in four breast cancer patients manifesting clinical depression [4]. The shock induced by a cancer diagnosis frequently triggers anxiety in a majority of patients. Recognizing the state of anxiety can be challenging; however, its symptoms encompass sleep disturbances, irritability, perspiration, tremors, nausea, palpitations, diminished concentration, hesitancy, and sporadic panic attacks. Anxiety tends to surface during diagnostic procedures, periods of awaiting test results, and before undergoing medical interventions [4].

Psychological symptoms among patients with cancer have been widely investigated during the past decades, reflecting the growing recognition that psychological well-being is an essential component of comprehensive cancer care. Previous reviews have examined specific psychiatric disorders, including depression, anxiety, delirium, and adjustment disorders, as well as the economic burden associated with psychological distress in oncology populations.

For instance, Bottomley [8] summarized the prevalence, clinical characteristics, and management of depression among patients with cancer, emphasizing its detrimental effects on quality of life and treatment outcomes. Similarly, Miovic and Block [9] reviewed psychiatric disorders in patients with advanced cancer, highlighting depression, anxiety, delirium, and adjustment disorders as common mental health conditions requiring multidisciplinary management. More recently, Van Beek et al. [10] systematically reviewed the relationship between psychological problems and healthcare utilization, demonstrating that psychological distress substantially increases healthcare

expenditures and societal costs while negatively affecting patients' functioning and well-being.

Although these reviews have made important contributions to the psycho-oncology literature, several limitations remain. Most previous reviews focused on specific psychiatric disorders, advanced-stage disease, healthcare costs, or selected intervention outcomes. Consequently, they provide limited understanding of the broader spectrum of psychological symptoms experienced across different cancer populations and the psychosocial factors contributing to these symptoms. In addition, increasing attention has recently been directed toward issues such as cancer-related stigma, fear of cancer recurrence, body image disturbances, uncertainty, and social isolation, which were not comprehensively synthesized in earlier reviews.

Given the rapid growth of psycho-oncology research over the last two decades, an updated synthesis integrating evidence across different cancer types, psychological symptoms, and psychosocial determinants is warranted. Rather than focusing on a single psychiatric disorder or a specific cancer population, the present systematic review provides a comprehensive overview of psychological symptoms reported among adults with cancer and identifies the individual, clinical, and psychosocial factors associated with these symptoms.

Accordingly, the present review addresses the following research questions:

1. What psychological symptoms have been reported among adult cancer patients in studies published between 2000 and 2023?
2. What individual, clinical, and psychosocial factors are associated with the psychological symptoms experienced by cancer patients?

By synthesizing evidence across diverse oncology populations, this review aims to contribute to the psycho-oncology literature by providing a broader understanding of psychological symptoms and their associated determinants, thereby supporting clinicians, mental health professionals, and researchers in developing comprehensive psychosocial care for individuals living with cancer.

2. Materials and methods

This research constitutes a systematic review conducted within a descriptive framework. Systematic reviews, as elucidated by Karaçam [11], are methodically structured and comprehensive syntheses of numerous studies characterized by analogous methodologies, undertaken by experts with the aim of discerning the most robust research evidence. While sharing certain characteristics with conventional literature reviews, systematic reviews differ in their purpose, which centers on the synthesis of information derived from the extant literature, presenting all pertinent evidence germane to the subject matter. Such reviews are particularly geared towards studies that furnish empirical data, as opposed to specific theoretical or conceptual constructs [12]. In this context, our investigation involved an exhaustive search for studies conducted between 2000 and 2023, encompassing the burgeoning field of psycho-oncology. To ensure reproducibility and precision, search strategies were constructed using a combination of Medical Subject Headings (MeSH terms) and title/abstract free-text keywords combined with Boolean operators (OR/AND). Searches were limited to human studies published in English or Turkish between January 1, 2000, and December 31, 2023. The full, reproducible electronic search string for PubMed is detailed in **Table 1**.

Table 1. Full reproducible search strategy for PubMed.

Search Step	Query / Search Terms	Search Concept
#1	“Neoplasms”[MeSH Terms] OR “Neoplasms”[Title/Abstract] OR “cancer”[Title/Abstract] OR “oncology”[Title/Abstract] OR “tumor”[Title/Abstract] OR “malignancy”[Title/Abstract]	Population (Cancer Patients)
#2	“Mental Disorders”[MeSH Terms] OR “Behavioral Symptoms”[MeSH Terms] OR “psychiatric symptoms”[Title/Abstract] OR “psychological distress”[Title/Abstract] OR “depression”[Title/Abstract] OR “anxiety”[Title/Abstract] OR “adjustment disorders”[Title/Abstract] OR “post-traumatic stress”[Title/Abstract] OR “stigma”[Title/Abstract] OR “psycho-oncology”[Title/Abstract]	Outcomes/Constructs (Psychological Symptoms)
#3	#1 AND #2	Combined Search
#4	#3 Filters applied: Publication date from 2000/01/01 to 2023/12/31; English, Turkish; Humans; Adult (19+ years)	Final Screened Set

Comprehensive literature searches were conducted between April 1, 2023, and May 15, 2023, across PubMed, ScienceDirect, and Google Scholar for studies published between January 2000 and December 2023. Of particular note, the research focus was directed towards the body of work produced within the last two decades, as this period witnessed a marked intensification in psycho-oncological research endeavors. The query strategy employed keywords and/or terms such as “cancer patients”, “psychiatric symptoms”, and “psycho-oncology”. Following the removal of duplicates and the exclusion of studies falling outside the predefined eligibility criteria, a total of 24 empirical studies (23 peer-reviewed journal articles and 1 doctoral dissertation) were included in the final synthesis. Language eligibility criteria (studies published in English or Turkish) were not applied as automated search filters during the initial electronic database query stage. Instead, language eligibility was systematically evaluated during the title/abstract and full-text screening phases according to the predefined PICOS criteria. The inclusion/exclusion criteria (PICOS Model) is given in **Table 2**.

Table 2. The inclusion/exclusion criteria table (PICOS Model).

Parameter	Inclusion Criteria	Exclusion Criteria
Population	Patients over 18 years of age with diagnosed cancer	Pediatric cases, relatives of undiagnosed patients
Intervention/Situation	Psychological symptoms (Anxiety, depression, etc.)	Studies focusing only on physical symptoms
Comparison	Healthy controls or within-group comparison	No comparison group requirement
Results	Psychological outcomes measured with valid scales	Non-measurable verbal statements
Study Type	Empirical/Clinical research (2000–2023)	Review, case report, letter to the editor, conference paper

The quality of the included studies was assessed by two independent researchers using the Joanna Briggs Institute (JBI) critical assessment tool. A total of 948 records were found in the database searches (PubMed, ScienceDirect, and Google Scholar). After eliminating irrelevant and duplicate studies, 54 studies were evaluated at the full-text/detail level. Thirty studies that were not research articles or did not meet the inclusion criteria were excluded; ultimately, a total of 24 studies ($n = 24$), consisting of 23 articles and 1 doctoral dissertation, were included in the review. The PRISMA flowchart is given in **Figure 1** below.

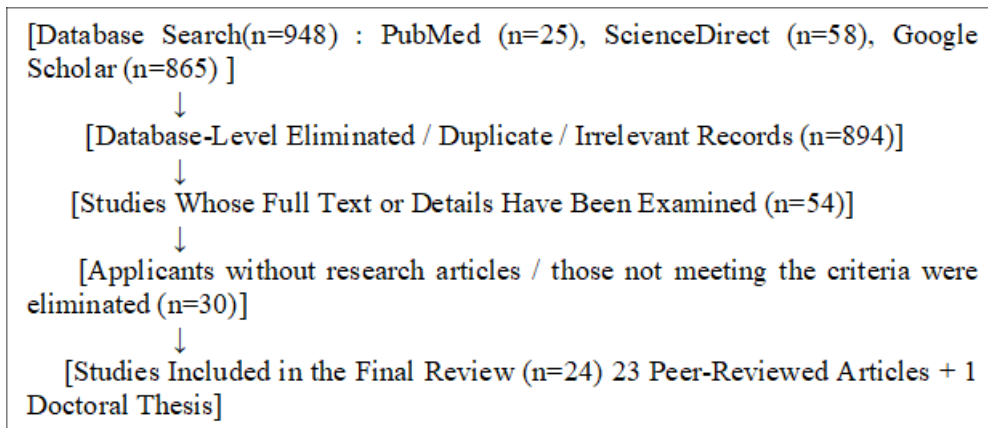


Figure 1. The PRISMA flowchart

Data synthesis: due to the methodological heterogeneity of the included studies—which encompassed cross-sectional quantitative surveys, qualitative phenomenological/grounded theory designs, and clinical database analyses—a meta-analysis was not feasible. Therefore, data were synthesized using a narrative synthesis approach, informed by the methodological framework outlined by Popay et al. [13]. The synthesis process followed four key steps: developing a preliminary synthesis, extracted data (authors, sample group, method, and obtained results) were tabularized chronologically to provide an initial overview of the evidence base. Exploring relationships within and between studies: findings were grouped thematic-causally around primary psychiatric outcomes (e.g., depression, anxiety, post-traumatic stress disorder (PTSD), and adjustment disorders) and key contributing psychosocial mechanisms (predominantly cancer-related stigma, body image disruption, and social withdrawal). Assessing robustness: the overall quality and methodological rigor of the synthesized evidence were evaluated using the JBI critical appraisal tools. Formulating a conceptual narrative: findings from quantitative prevalence rates and qualitative thematic insights were integrated into a coherent narrative structure addressing the main research questions.

Methodological quality and risk of bias were independently assessed by two reviewers using the JBI critical appraisal tools tailored to specific study designs (cross-sectional, qualitative, and cohort studies). Inter-rater reliability was calculated using Cohen’s kappa, showing strong initial agreement between reviewers ($k = 0.84$). Any discrepancies were resolved through discussion and consensus with a third senior researcher. Overall quality scores ranged from 62.5% to 100% (Table 3). In accordance with PRISMA recommendations, studies were not excluded based solely on quality scores to ensure a comprehensive overview of the literature; instead, methodological rigor was used to weight the confidence in synthesis findings.

Table 3. Methodological quality assessment of included studies using JBI critical appraisal tools.

Study	Study Design	JBI Tool Used	Met Criteria (n/N)	Quality Score (%)	Risk of Bias
Ateşçi et al. [14]	Cross-Sectional	JBI Analytical Cross-Sectional	8/8	100.0	Low
Carter-Harris [15]	Cross-Sectional	JBI Analytical Cross-Sectional	7/8	87.5	Low
Ernst et al. [16]	Cross-Sectional	JBI Analytical Cross-Sectional	8/8	100.0	Low
Esser et al. [17]	Cross-Sectional	JBI Analytical Cross-Sectional	7/8	87.5	Low

Continued table:

Study	Study Design	JBI Tool Used	Met Criteria (n/N)	Quality Score (%)	Risk of Bias
Gökler-Danışman et al. [18]	Cross-Sectional	JBI Analytical Cross-Sectional	7/8	87.5	Low
Güneri et al. [19]	Case-Control	JBI Case-Control	8/10	80.0	Low
Gupta et al. [20]	Qualitative	JBI Qualitative Research	9/10	90.0	Low
Hamann et al. [21]	Qualitative	JBI Qualitative Research	8/10	80.0	Low
Johnson et al. [22]	Cross-Sectional	JBI Analytical Cross-Sectional	6/8	75.0	Moderate
Kim & Yi [23]	Cross-Sectional	JBI Analytical Cross-Sectional	7/8	87.5	Low
Lebel et al. [24]	Cross-Sectional	JBI Analytical Cross-Sectional	7/8	87.5	Low
Lehto [25]	Qualitative	JBI Qualitative Research	7/10	70.0	Moderate
Marlow et al. [26]	Cross-Sectional	JBI Analytical Cross-Sectional	8/8	100.0	Low
Mishra [27]	Dissertation/ Clinical	JBI Analytical Cross-Sectional	6/8	75.0	Moderate
Mohabbat-Bahar et al. [28]	Grounded Theory	JBI Qualitative Research	8/10	80.0	Low
Ogawa et al. [29]	Database Cohort	JBI Cohort Studies	9/11	81.8	Low
Palgi et al. [30]	Cross-Sectional	JBI Analytical Cross-Sectional	6/8	75.0	Moderate
Shen et al. [31]	Cross-Sectional	JBI Analytical Cross-Sectional	7/8	87.5	Low
Simpson et al. [32]	Cross-Sectional/ Intervention	JBI Analytical Cross-Sectional	7/8	87.5	Low
Swai [33]	Thesis/ Cross-Sectional	JBI Analytical Cross-Sectional	5/8	62.5	Moderate
Threader& McCormack [34]	Qualitative	JBI Qualitative Research	9/10	90.0	Low
Weiss et al. [35]	Cross-Sectional	JBI Analytical Cross-Sectional	6/8	75.0	Moderate
Yağan [36]	Thesis/ Cross-Sectional	JBI Analytical Cross-Sectional	5/8	62.5	Moderate
Yılmaz et al. [37]	Methodological	JBI Analytical Cross-Sectional	7/8	87.5	Low

Note. JBI = Joanna Briggs Institute. Quality scores reflect the percentage of applicable appraisal criteria met by each study. High risk of bias = <50% ; Moderate risk of bias = 50–75% ; Low risk of bias = >75% .

3. Results and Discussion

Between 2000 and 2005, a total of 325 studies were accessed from Scencedirect (n = 56), Google academic (n = 256) and PubMed (n = 13) databases. When unrelated and similar studies were excluded, 22 studies were examined. When those that did not have research articles and were not suitable for our subject were excluded from these 22 studies, they were resulted in 3 studies (2 articles, and 1 thesis). Between 2006 and 2011, a total of 375 results, including pubmed = 12, scencedirect = 2, and google academic = 361, were reached, 5 of them were found suitable for our research. Between 2011 and 2023, the studies (n = 248) were accessed from Google Scholar database. Records unrelated to the study scope or highly redundant were excluded and then 30 studies were examined. When the non-research articles were excluded from these 30 articles, it was completed with 16 studies. The table format consists of authors, sample group, method, and results, respectively (Table 4). Information about the

studies is given in **Table 4** in chronological order.

Table 4. Data on article characteristics

Article Author	Sample Group	Method	Obtained Results
Yağan, S [36]	50 cancer patients hospitalized in Gulhane Military Medical Academy Hospital Medical Oncology and Radiation Oncology units and their first degree relatives and 50 diabetic patients who were hospitalized in the Endocrinology and Internal Medicine Units of the same hospital and their first degree relatives.	In the study, Symptom Check List Revised (SCL 90-R), State Trait Anxiety Inventory measurement tools were used.	In the study, cancer patients' depression, paranoid thoughts, phobic anxiety, hostile feelings, general mental symptoms and trait anxiety levels were found to be higher. According to gender, depression, somatic complaints and general psychological symptom levels of women were higher than men in both patient groups. It was found that cancer patients who were not told their diagnosis had more depression and phobic anxiety.
Simpson, JSA et al. [32]	The study was conducted with 89 female patients with early stage breast cancer with a mean age of 50.	Interview schedule for social integration (ISSI), Symptom checklist (SCL)–90-R, Beck depression inventory, Structured clinical interview for DSM-III-R (SCID) measurement tools were used to determine the psychiatric symptoms of the patients.	The result of this study reveals that when psychiatric disorders seen in patients diagnosed with SCID are examined, major depressive disorder (MDD) is the first and 22 patients have MDD. Cross-sectionally, there is a strong association between social support and psychiatric morbidity in patients with early-stage breast cancer.
Ateşçi, FÇ et al. [14]	It was conducted with 150 cancer patients, 72 women and 78 men, who were treated consecutively in the oncology, internal medicine, obstetrics and general surgery departments of Pamukkale University Medical Faculty Hospital.	General Health Questionnaire, Hospital Anxiety and Depression Scale, SCLD-I (Structured Clinical Interview for DSM-IV/DSM-IV Axis I Disorders) measurement tools were applied.	As a result of the study, 43 (28.7%) cancer patients were diagnosed with DSM-IV Axis I; showed that adjustment disorder with depressive mood (14%) and major depressive disorder (11.3%) were the most common disorders.
Güneri, P et al. [19]	Eighty-three patients with primary oral cancer and fifty-eight randomly selected subjects were included in the study as a healthy control group in the study conducted to investigate the anxiety profile of a group of oral cancer patients in Turkey.	A questionnaire including State and Trait Anxiety Inventory Form-2 (STAI-2) was administered to both groups.	The scores of both groups were not significant. This revealed that the anxiety levels of the patients were low.
Mishra, N [27]	It was conducted on breast and cervical cancer patients admitted to the inpatient department of JSS Hospital and Bharath Cancer Hospital in Mysore between December 2007 and August 2009.	Psychiatric disorders of the patients were associated and their depression score, anxiety level, sexual functioning, suicidal ideation and psychiatric status were compared. MINI plus, GHQ-12, HAMD, HAMA, ASEX, SSI measurement tools were used during the interviews with the patients.	According to the results of the study, 60% of breast cancer cases and 66.44% of cervical cancer cases have at least one psychiatric disorder. Depressive/anxious mood and adjustment disorder (26.7%) was the most common diagnosis in both cancer groups. Major depressive disorder was detected in 16.7% of breast cancer patients and 23.3% of cervical cancer patients. It was determined that 33.6% of breast cancer patients and 22.66% of cervical cancer patients had anxiety disorder. The frequency of post-traumatic stress disorder specific to the breast was reported in 13.3% of breast cancer patients.

Continued table:

Article Author	Sample Group	Method	Obtained Results
Ogawa, A et al. [29]	Between October 2005 and November 2009, a study was conducted with 2000 cancer patients in Japan to support the idea of close cooperation between the cancer care team service and the psychiatric consultation service to provide adequate comprehensive care to cancer patients.	The characteristics, physical and psychiatric symptoms of cancer patients were analyzed by analyzing the database of patients referred to the palliative care team at the Japan East National Cancer Center Hospital.	According to the results of the study, 70% of the patients were diagnosed with a psychiatric diagnosis and the main symptoms referred for psychiatric consultation were delirium (28%), adjustment disorder (18%), major depression (7.6%) and dementia (6.6%). In addition, the most common psychiatric symptoms were insomnia in 959 (48%) patients, anxiety in 628 (31%) patients, and attention disorder in 573 (29%) patients.
Palgi, Y et al. [30]	A study was conducted with consecutive 123 patients of gastric cancer at stage IV recruited from the oncology unit at Tel Aviv Sourasky Medical Center to examine the relationship between the clinical level of PTSD symptoms and the level of clinical depression in gastric cancer patients.	Patients filled out a self-administered questionnaire that evaluated demographic information, psychiatric symptoms, and data from their medical records.	As a result of the study, it was found that 94.1% of the participants suffering from high clinical risk of PTSD also suffered from the risk of clinical depression level. It was also observed that more than 27% of the sample had a high risk for clinical level of PTSD.
Swai, PJ [33]	It was conducted with 150 patients who applied to the Ocean Road Cancer Institute (ORCI) in Dar Es Salaam, Tanzania.	The International Neuropsychiatric Interview (MINI) was designed as a short-term interview for major Axis I psychiatric disorders in DSM IV and ICD-10 in the study, which aims to form psychiatric morbidity among adult cancer treatment.	As a result of the application of MINI, it was found that 50.7% of the patients had a psychiatric morbidity. The three leading types of psychiatric morbidities are pain disorder associated with psychological factors and general medical condition (40.7%), suicidal tendency (38.7%) and major depression (28.0%). Others include psychotic disorder (4%) and panic disorders, including panic disorder with agoraphobia (3.3%), panic disorder without agoraphobia (1.3%), and agoraphobia (0.7%).
Yilmaz et al. [37]	It was conducted with cancer patients who applied to the chemotherapy unit of a training and research hospital (n = 322).	Measuring Attitudes Towards Cancer Questionnaire (ATCQ) is a methodological type of research to test the validity and reliability of the Turkish version.	It was understood that the patients had negative attitudes towards cancer, namely anxiety.
Ernst et al. [16]	It was conducted with patients (n = 858) diagnosed with breast (n = 297), prostate (n = 268), colon (n = 168) and lung (n = 125) cancers.	This is a descriptive and cross-sectional study to evaluate the impact of cancer patients on stigma and quality of life. Data were collected using the Social Impact Scale, the European Organization for Research and Treatment of Cancer (EORTC) Quality of Life Scale, and the Patient Health Questionnaire.	It has been found that stigma causes emotional dysfunction, shame and social isolation in patients with lung cancer; deterioration in physical, role, social, cognitive and emotional functions in patients with breast cancer; deterioration in role, social and emotional functions in patients with colon cancer, and physical, role and social functions in patients with prostate cancer.
Johnson et al [22]	It was conducted with patients with lung cancer (n = 149).	Research data were collected face to face interview technique via using the Cataldo Lung Cancer Stigma Scale, Spielberger State Anxiety Scale, Quality of Life Scale, CES-Depression Scale.	As a result of the study, it was understood that as the stigma perception of the patients increased, their anxiety and depression levels increased and their quality of life was negatively affected.
Hamann et al. [21]	It was conducted with patients with lung cancer (n = 42).	The patients were divided into groups as non-smokers, those who quit smoking for five years or more, those who quit smoking shortly after diagnosis, and those who still smoke, and a qualitative study was conducted by individual interviews.	As a result of the study, two main themes were determined as internalized stigma and perceived stigma.

Continued table:

Article Author	Sample Group	Method	Obtained Results
Lebel et al. [24]	It was conducted with patients with lung cancer (n = 107) and patients with head and neck cancer (n = 99).	Within two weeks before the planned follow-up appointments; Questionnaire forms including subjective well-being, distress, stigma, self-blame, disfigurement, disease intervention and post-traumatic growth criteria were given.	Stigma has been found to be higher in patients with head and neck cancer who have been greatly deformed by cancer treatment than in patients with lung cancer, and stigma has a strong and harmful psychosocial effect in lung and head and neck cancers.
Gupta et al. [20]	A total of 39 volunteers, consisting of health professionals who participated in cancer screenings performed by a Cancer Screening Association and individuals who have completed their treatment and have not been treated for cancer for at least one year, were included in the study.	A qualitative research method consisting of individual in-depth interviews and focus group interviews lasting three months was used.	Stigmatization was found to be a common theme in all groups.
Threader et al. [34]	It was conducted with patients with head and neck cancer (n = 9).	A phenomenological study was conducted by conducting in-depth interviews with the patients. It was used with a qualitative research method.	The main themes were defined as distress, psychological development and stigma.
Carter-Harris [15]	The study was conducted with patients (n = 93) aged 22 years and older with a diagnosis of non-small cell lung cancer admitted to a thoracic oncology clinic and radiation outpatient clinic of a public hospital in the southeastern United States.	This is a descriptive and cross-sectional study. Research data were collected using the semi-structured interview technique and the 4-point Likert-type Cataldo Lung Cancer Stigma Scale consisting of 31 items.	Shame and stigma, social isolation and stigma associated with smoking, which are the sub-dimensions of the Cataldo Lung Cancer Stigma Scale, were found to be quite high.
Gökler-Danışman et al. [18]	The study was conducted with cancer patients (169 female, 81 male) who applied to the outpatient chemotherapy unit of two private hospitals in Istanbul and were treated with chemotherapy.	It is a descriptive and cross-sectional study. Research data were collected using the Illness Perception Scale, the General Hope Scale, the Discrimination and Stigma Scale, the Prolonged Grief Disorder Scale Patient Form, and the Identity Scale.	It has been understood that negative discriminatory behaviors cause grief, hopelessness, social isolation in cancer patients and prevent them from sharing their illness.
Marlow et al. [26]	The study was conducted with patients with cervical cancer (n = 187), lung cancer (n = 204), breast cancer (n = 213), colorectal cancer (n = 195) and skin cancer (n = 215).	It was conducted in a descriptive and cross-sectional type in order to evaluate the stigmatization levels of patients with lung cancer compared to patients with other cancers. Research data were collected using the Cancer Stigma Scale and face-to-face interview technique.	It has been understood that patients with lung cancer are more stigmatized than other types of cancer due to the severity and financial burden of the disease.
Mohabbat-Bahar et al. [28]	The study was conducted with 12 cancer patients (seven women, five men) who applied to the oncology clinic of a hospital in Iran, being diagnosed for at least six months, aged 20-65 years, and agreed to participate in the study, their family members and 8 healthcare professionals with two more years of oncology experience.	It is a research conducted using Grounded Theory-Based semi-structured interview technique to evaluate the stigma and impact of cancer patients and their families.	In the study, the main themes were found to be social stigma, self-stigma, coping strategies and acceptance. It was understood that the sub-themes of social stigma were negative attitudes and prejudices, and the sub-themes of self-stigmatization were shame and guilt.

Continued table:

Article Author	Sample Group	Method	Obtained Results
Kim and Yi [23]	The study was conducted with individuals (n = 223) who were diagnosed with cancer in childhood and adolescence (15-39 years old).	It is a descriptive and cross-sectional study to evaluate the effect of social stigma on psychosocial distress. The research data were collected using the Brief Symptom Inventory, Social Impact Scale, and Discrimination Scale face-to-face interview technique.	It has been understood that social stigma increases internalized shame, decreases social support and causes social psychosocial distress.
Lehto [25]	It was conducted with patients with lung cancer (n = 11).	This is a qualitative study conducted to evaluate smoking behavior, causes of disease and perceived stigma in patients with lung cancer.	The main themes of the study were identified as social attitudes, negative emotions such as shame, guilt, regret and anger.
Esser et al. [17]	It was conducted with patients with breast (n = 297), prostate (n = 268), colorectal (n = 168), lung cancer (n = 125).	This is a descriptive and cross-sectional study to evaluate the effect of stigma on depressive symptoms and its relationship with body image in cancer patients. Research data were collected by face-to-face interview technique using the Stigma Scale, Depressive Symptomatology Scale, and Body Image Scale.	As a result of the study, it was found that stigma affects depressive symptoms in all patient groups except lung cancer patients. It was stated that body image was moderately affected in all patients. It has been understood that the change in the image of the organ affected by cancer affects the depressive symptoms more than the change in the whole body functions.
Shen et al. [31]	It was conducted with patients with lung cancer (n = 231).	This is a descriptive and cross-sectional study. Research data were collected using the Patient-Health Professional Communication Scale and the Cataldo Cancer Stigma Scale, and face-to-face interviews with patients.	As a result of the study, it has been understood that the patient-health professional communication is at a better level as the stigma of health professionals towards lung cancer decreases.
Weiss et al. [35]	It was conducted with patients with lung cancer (n = 174).	The data of a descriptive and cross-sectional study conducted with the aim of evaluating stigma, self-blame and satisfaction in patients with lung cancer were collected by telephone and face-to-face interview technique using a questionnaire consisting of 63 questions.	It has been understood that there is a significant relationship between smoking and self-blame and stigmatization in patients with lung cancer.

As seen in **Table 4**, it is understood that cancer patients mostly experience psychological symptoms due to stigma [15-18, 20-26, 28, 31, 34-35] and among these symptoms, the most common is depression [14, 22, 27, 29, 30, 36].

4. Discussion

In this study, answers were sought to the questions of what are the most common psychological symptoms, and what factors are causing those symptoms observed in cancer patients in the studies conducted on cancer patients between the years of 2000-2023. Cancer is a serious disease that can cause death in the world and in our country, and it is seen in many studies that psychiatric disorders such as anxiety, depression and adjustment disorders are very common in people with this disease [1, 38-39].

The psychological symptoms frequently observed in cancer patients appear to align with the findings of this study and are in concordance with relevant literature. Prevalence studies indicate that approximately 30-35% of

cancer patients necessitate psycho-oncological intervention. Notable among the psychiatric disorders frequently encountered in this population are severe stress reactions, adjustment disorders, depression, and neurotic disorders. In the context of relatives of cancer patients, it is observed that while a majority develop effective coping strategies to contend with stress, psychological stress is reported in roughly 20-30% of individuals closely associated with patients diagnosed with advanced cancer [5]. According to Noyan [4], studies reveal a wide-ranging prevalence of mental disorders, spanning from 9% to 60%. The most prevalent mental disorders encompass adjustment disorders, various forms of anxiety, anxiety disorders, delirium, and depression.

The analysis of the studies included in this research underscores that depression stands out as the most prevalent psychological disorder among cancer patients. As per Bağ [40], investigations into the prevalence of depression among cancer patients, when employing depression measurement tools rather than adhering to diagnostic criteria such as ICD-10 and DSM-IV, yielded a prevalence rate of 15%. Furthermore, in a study focused on palliative care patients, a noteworthy 24.4% were found to exhibit depression or anxiety disorders. According to Noyan [4], major depression was reported in 38% of cancer patients, with 58% experiencing depressive symptoms. A domestic study within our country revealed a depression prevalence of 22%. Despite the frequency of depression among cancer patients, it regrettably often goes unnoticed and untreated.

It's essential to differentiate between temporary feelings of sadness and social withdrawal from clinically significant depressive symptoms or disorders in individuals following a cancer diagnosis. Unfortunately, valid diagnoses and appropriate treatment for depressive symptoms and syndromes among oncology patients are often insufficiently defined. Depressive symptoms are common among patients with cancer, with studies reporting prevalence estimates ranging from approximately 15% to 25% for major depression, while clinically significant depressive symptoms are observed in a substantially larger proportion of patients depending on the cancer type, treatment phase, and assessment method [8-41]. This depression associated with cancer, often termed pharmacological depression due to its neurobiological resemblance to standard depression, is treatable.

In psycho-oncology literature, elevated scores on screening instruments (such as the HADS, BSI, or CES-D) indicate subclinical distress or depressive/anxiety symptoms, whereas formal psychiatric diagnoses (e.g., major depressive disorder or adjustment disorder) require structured clinical evaluations based on Diagnostic and Statistical Manual of Mental Disorders (DSM) or International Classification of Diseases (ICD) criteria [14-27-32]. While subclinical symptoms represent temporary or reactive distress related to cancer diagnosis and treatment, formal psychiatric disorders reflect distinct clinical entities requiring structured psychiatric or pharmacological interventions. Differentiating between symptom severity and formal diagnostic thresholds is vital for avoiding diagnostic inflation and tailoring appropriate levels of psycho-oncological support.

When assessing depression in cancer patients, it's imperative to consider factors such as psychomotor changes, restlessness, concentration difficulties, feelings of worthlessness and guilt, thoughts of self-harm, sleep disturbances, appetite fluctuations, weight loss, and diminished sexual interest. Furthermore, the diagnosis should encompass the individual's functional limitations in work, social interactions, and other areas. Additionally, clinicians should explore potential physiological factors contributing to these symptoms [40].

The research findings suggest that PTSD is prevalent among cancer patients [42]. Unlike other traumatic stressors, cancer represents an inescapable, lifelong stressor that commences with the traumatic diagnosis and persists throughout

routine oncological evaluations. In a study involving cancer patients receiving outpatient treatment within our country, PTSD was identified in 19% of patients, with a notably higher occurrence among those undergoing chemotherapy. Furthermore, research indicates that certain cancer types, such as breast cancer [27], negatively impact sexual functionality. Beyond breast cancer, bladder cancer patients experience adverse effects on their sexuality, sexual activities, social interactions, and daily life. Surgical procedures like radical cystectomies and urinary diversion operations, while crucial for treatment, can disrupt body integrity and body image, leading to emotional and social withdrawal along with urinary incontinence issues [4]. Gynecological cancers are similarly recognized as threats to women's body image, sexual identity, and reproductive capacity, exerting adverse consequences on both patients and their families' quality of life. The diagnosis of gynecological cancer tends to diminish women's interest in sexual activity, engender problems with achieving orgasm, disrupt perceptions of femininity and reproductive capabilities, and affect body image and social interactions negatively [43]. For women, breast cancer can be perceived as a threat to the symbol of femininity and sexuality, potentially resulting in stigma for both female and male patients [44].

Upon scrutinizing the findings of this study, it becomes evident that the psychological symptoms afflicting cancer patients are frequently rooted in societal stigmatization. Cancer, often perceived negatively in society and commonly regarded as a lethal and incurable ailment due to its high mortality and morbidity rates, is a key driver of this unfavorable perception. Stigmatization, a prevalent experience for cancer patients, significantly impairs their social identities, psychological well-being, and overall quality of life [44].

The imposition of stigma effectively discredits and marginalizes cancer patients within society, leading to a reduction in their quality of life, diminished adherence to treatment regimens, exacerbated symptoms, and an adverse impact on treatment outcomes. Cancer patients internalizing this stigma may experience a range of emotions, including shame, guilt, lowered self-esteem, social withdrawal, fear, feelings of rejection, and social isolation. Consequently, the negative societal perceptions and attitudes directed towards cancer contribute to the development of detrimental behaviors and stigmatization of patients, ultimately diminishing their quality of life and expected life expectancy [44].

Methodological quality directly informed the interpretation of synthesized evidence. While studies employing formal diagnostic interviews (e.g., SCID, MINI) and validated scales provided robust diagnostic prevalence data [14-27], cross-sectional studies relying solely on self-report screening instruments (e.g., SCL-90-R) exhibited higher risk of response bias. Furthermore, qualitative studies [25-34] provided rich contextual insights into stigma but had smaller sample sizes, warranting cautious generalization.

A critical synthesis of the included studies reveals significant methodological heterogeneity that warrants careful interpretation of the overall findings. First, sample sizes varied substantially across studies, ranging from small qualitative cohorts [25-34] to large-scale registry-based or multi-center quantitative evaluations [16-29]. Second, while several studies utilized structured clinical diagnostic interviews such as the SCID or MINI to establish formal psychiatric diagnoses [14-27-33], others relied on self-report screening questionnaires (e.g., SCL-90-R, HADS, BSI). This variation in assessment tools contributes to the wide disparity in reported prevalence rates for depression and anxiety across oncology populations. Quality appraisal using the JBI critical appraisal tools indicated that while most quantitative studies maintained high rigor in reporting measurement validity, several cross-sectional designs lacked adequate control for confounding variables such as disease stage, time since diagnosis, or ongoing

treatment modality.

The psychological manifestations identified in this review were not uniform across oncology populations but varied distinctly by cancer site and trajectory. Patients diagnosed with lung cancer or head and neck cancer experienced significantly higher levels of perceived and internalized stigma, self-blame, and smoking-related guilt compared to individuals with other malignancies [15-24-26-35]. Conversely, in breast and gynecological cancer populations, psychological distress was predominantly mediated by body image disturbances, altered femininity, and disruption of sexual function following invasive surgical interventions or chemotherapy [4-17-27]. Furthermore, the disease stage played a pivotal role; advanced or metastatic stages (e.g., stage IV gastric cancer in Palgi et al. [30]) were strongly associated with elevated comorbid PTSD and severe depressive symptoms, reflecting existential anxiety and fear of disease progression.

Sociocultural context emerged as a key determinant in how cancer-related distress and stigma are experienced and expressed. In non-Western societies and collectivist cultures [14-20-28], societal stigma often extends to the patient's family, triggering intense feelings of shame, social withdrawal, and reluctance to disclose the diagnosis. However, strong familial ties and informal social support networks in these cultural settings frequently served as a protective buffer against psychiatric morbidity, whereas in Western cohorts, formal psycho-oncology interventions and individual coping mechanisms were more prominent in mitigating distress [22-32]. These findings highlight the necessity of culturally tailored psycho-oncological care models that address both individual distress and broader family dynamics.

This research is envisaged to offer clinicians valuable insights into the psychological symptoms exhibited by cancer patients and the underlying factors contributing to these manifestations. Consequently, it is anticipated that this knowledge will serve as a guiding resource for clinicians in the development of patient-tailored treatment strategies.

5. Conclusion

In conclusion, this review study reveals that the psychological symptoms and negative effects experienced by cancer patients are an important issue in the literature. Studies show that the stigma associated with cancer is critical in increasing the negative psychological symptoms of patients. It has also been revealed that this stigma causes many psychological disorders, especially depression.

A narrative integration of the evidence reveals that psychological symptoms in oncology do not occur in isolation; rather, they evolve dynamically across the disease trajectory and interact conceptually. The initial diagnostic phase is dominated by acute anxiety, shock, and short-term adjustment disorders stemming from prognostic uncertainty. As patients transition into active treatment, invasive surgical procedures and chemotherapy toxicity shift the psychological burden toward body image disruption, sexual dysfunction, and clinical depression [17-43]. During survivorship and advanced stages, chronic post-traumatic stress symptoms, fear of recurrence, and severe depressive co-morbidity become more prominent [30]. Crucially, cancer-related stigma acts as a key underlying mechanism driving these outcomes: perceived disfigurement and self-blame induce guilt and social isolation, which directly exacerbate depressive severity and impede coping across all disease phases [5-23].

A critical analysis of the synthesized evidence reveals that the wide disparity in reported psychological symptom rates (ranging from 9% to 70%) is systematically explained by key study characteristics rather than simple

random variation. The choice of measurement tool significantly influenced diagnostic prevalence. Studies employing clinician-administered structured diagnostic interviews based on DSM/ICD criteria (e.g., SCID, MINI) yielded lower, clinically precise prevalence rates for formal psychiatric conditions—such as major depressive disorder (11.3%–28.0%) and adjustment disorder (14.0%–26.7%) [14-27-33]. Conversely, studies utilizing self-report screening instruments (e.g., SCL-90-R, HADS, BSI) or clinical registry databases [29-36] captured broad psychological distress, resulting in substantially higher reported morbidity rates (up to 70%). While qualitative designs [25-34] did not quantify prevalence, they contextualized how subclinical distress is subjectively experienced. Variations in outcomes were strongly conditioned by clinical parameters. Lung and head/neck cancer cohorts exhibited disproportionately high levels of perceived stigma, self-blame, and social isolation linked to smoking history and facial disfigurement [15-24]. In contrast, breast and gynecological cancer populations predominantly reported distress mediated by body image disruption, altered sexual functioning, and loss of femininity [17-43]. Furthermore, advanced disease stages markedly elevated psychiatric severity: patients with stage IV gastric cancer demonstrated a 94.1% comorbid depression risk among those with high PTSD symptoms [30], reflecting existential distress near the end of life. Sociocultural dynamics shaped how distress was expressed and reported. In collectivist cultures (e.g., studies from Turkey, Iran, and India), cancer-related stigma frequently extended beyond the individual to impact family social standing, triggering diagnostic concealment and shame [20-28]. However, strong informal social support structures within these collectivist settings buffered against severe psychiatric morbidity [32].

This systematic review has several limitations that should be considered when interpreting the findings. First, the review protocol was not prospectively registered in PROSPERO or another international registry prior to data extraction. While prospective registration is recommended under PRISMA 2020 Item 24a to minimize reporting bias, all research questions, search strategies, eligibility criteria (PICOS model), and quality appraisal methods were predefined prior to literature searches (conducted between April and May 2023) and executed without post hoc amendments to maintain methodological integrity. A key methodological limitation of the synthesized literature concerns the potential overgeneralization of cancer-related stigma. While stigma emerged as a strong predictor of adverse psychological outcomes across multiple reviews, a substantial proportion of included studies investigating stigma focused specifically on lung cancer [15-21-26-35] and head and neck cancers [24-34]. In these populations, stigma is heavily confounded by perceived self-blame and smoking-related guilt. Spanning a 23-year publication period (2000–2023), the included literature reflects an evolving paradigm in psycho-oncology research. Early studies (2000–2010) predominantly focused on establishing baseline prevalence rates of general psychiatric morbidity, depression, and anxiety using standard psychometric screeners [14-36]. Over the past decade (2011–2023), however, research priorities have progressively shifted toward nuanced psychosocial mechanisms, including disease-specific stigma, fear of cancer recurrence, patient-provider communication and body image disruption [15-16-31]. Despite these evolving trends, a limitation of the present review is the lack of a formal longitudinal synthesis tracking changes across specific treatment eras. Given that most reviewed studies employed cross-sectional designs, future systematic reviews should incorporate longitudinal cohort analyses to observe how psychological symptom trajectories evolve from early diagnosis through long-term survivorship or end-of-life care. The literature search was restricted to PubMed, ScienceDirect, and Google Scholar. Although PubMed and ScienceDirect cover extensive biomedical, psychological, and psycho-oncological literature, and Google Scholar allowed

the inclusion of gray literature (such as doctoral dissertations), key specialized databases including PsycINFO, Web of Science, CINAHL, Embase, and the Cochrane Library were not searched. The exclusion of these databases represents a potential source of selection bias and may have led to the omission of additional relevant empirical studies. While manual cross-referencing of citations was conducted to minimize missing literature, future systematic reviews in psycho-oncology should incorporate a broader array of specialized databases to ensure a more comprehensive search coverage. The existence of all possible effects on psychological disorders should be included in new review studies to be conducted on the subject. In addition, it would be useful to conduct more systematic reviews to evaluate how the psychological state of cancer patients from the beginning to the end of the cancer process is affected over time. It is recommended to monitor these factors in the years following the end of cancer treatment. In addition, psycho-oncology should be expanded in cancer treatment services as a part of preventive mental health studies.

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References

- [1] Şahin H, Kocamaz D, Yıldırım M. Psychological problems and psycho-oncology in the cancer process. *Zeugma health research journal*. 2020, 2(3), 136–141.
- [2] Özkan S. Meme kanseri ve liyezon psikiyatrisi [Breast cancer and consultation-liaison psychiatry]. Özmen V, Cantürk Z, Çelik V, (EdS.) *Meme hastalıkları [Breast diseases]*. Güneş Tıp Kitabevleri; 2012. s. 611–618.
- [3] Yazgı ZG, Yılmaz M. The nurse's role in coping with psychosocial problems experienced by oncology patients. *Adnan menderes university journal of health sciences faculty*. 2019, 4(1), 60–70.
- [4] Noyan MA. Principles of psychiatric approach to bladder cancer patients and recommendations for uro-oncologists. *Bulletin of urooncology*. 2012, 11(4), 305–310.
- [5] Bağ B. Psycho-oncology, psychosocial problems and measurement methods. *Current approaches in psychiatry*. 2012, 4(4), 449–464. <https://doi.org/10.5455/cap.20120427>
- [6] Savaş E. Psycho-oncology & current approaches. *Eurasian journal of researches in social and economics*. 2020, 7(2), 15–22.
- [7] Napoletano F, Cutugno F, Cascella M, et al. Can you describe your pain? Combining psycho-emotional and pragmatic analysis on cancer patients' utterances. *International journal of linguistics*. 2025, 17(5), 86–103.
- [8] Bottomley A. Depression in cancer patients: A literature review. *European journal of cancer care*. 1998, 7(3), 181–191. <https://doi.org/10.1046/j.1365-2354.1998.00100.x>
- [9] Miovic M, Block S. Psychiatric disorders in advanced cancer. *Cancer*. 2007, 110(8), 1665–1676. <https://doi.org/10.1002/cn.cr.22980>
- [10] Van Beek FE, Wijnhoven LMA, Holtmaat K, et al. Psychological problems among cancer patients in relation to healthcare and societal costs: A systematic review. *Psycho-oncology*. 2021, 30(11), 1801–1835. <https://doi.org/10.1002/pon.5753>
- [11] Karaçam Z. Systematic review methodology: A guide for preparing a systematic review. *Dokuz eylül university school of nursing electronic journal*. 2013, 6(1), 26–33. <https://izlik.org/JA24LY89AS>
- [12] Green S, Higgins JPT, Alderson P, et al. What is a systematic review? Higgins JPT, Green S, (Eds.) *Cochrane handbook for systematic reviews of interventions*. Wiley; 2008. s. 1–9.
- [13] Popay J, Roberts H, Sowden A, et al. Guidance on the conduct of narrative synthesis in systematic reviews: A product from the ESRC Methods Programme. Lancaster University; 2006. <https://doi.org/10.13140/2.1.1018.4643>
- [14] Ateşçi FÇ, Oğuzhanoglu NK, Baltalarlı B, et al. Psychiatric disorders and associated factors in cancer patients. *Turkish journal of psychiatry*. 2003, 14(2), 145–152.

- [15] Carter-Harris L. Lung cancer stigma as a barrier to medical help-seeking behavior: Practice implications. *Journal of the American association of nurse practitioners*. 2015, 27(5), 240–245. <https://doi.org/10.1002/2327-6924.12227>
- [16] Ernst J, Mehnert A, Dietz A, et al. Perceived stigmatization and its impact on quality of life –results from a large register-based study including breast, colon, prostate and lung cancer patients. *Bmc cancer*. 2017, 17(1), Article 741. <https://doi.org/10.1186/s12885-017-3742-2>
- [17] Esser P, Mehnert A, Johansen C, et al. Body image mediates the effect of cancer-related stigmatization on depression: A new target for intervention. *Psycho-oncology*. 2018, 27(1), 193–198. <https://doi.org/10.1002/pon.4494>
- [18] Gökler-Danışman I, Yalçınay-İnan M, Yiğit İ. Experience of grief by patients with cancer in relation to perceptions of illness: The mediating roles of identity centrality, stigma-induced discrimination, and hopefulness. *Journal of psychosocial oncology*. 2017, 35(6), 776–796. <https://doi.org/10.1080/07347332.2017.1340389>
- [19] Güneri P, Çankaya H, Surgevil O. Anxiety levels among oral cancer patients: A case-control study from Turkey. *Turkish journal of cancer*. 2009, 39(2), 56–61.
- [20] Gupta A, Dillon PK, Govil J, et al. Multiple stakeholder perspectives on cancer stigma in North India. *Asian pacific journal of cancer prevention*. 2015, 16(14), 6141–6147. <https://doi.org/10.7314/apjcp.2015.16.14.6141>
- [21] Hamann HA, Ostroff JS, Marks GE, et al. Stigma among patients with lung cancer: A patient-reported measurement model. *Psycho-oncology*. 2014, 23(1), 81–92. <https://doi.org/10.1002/pon.3371>
- [22] Johnson CGB, Brodsky JL, Cataldo JK. Lung cancer stigma, anxiety, depression, and quality of life. *Journal of psychosocial oncology*. 2014, 32(1), 59–73. <https://doi.org/10.1080/07347332.2013.855963>
- [23] Kim MA, Yi J. Life after cancer: How does public stigma increase psychological distress of childhood cancer survivors? *International journal of nursing studies*. 2014, 51(12), 1605–1614. <https://doi.org/10.1016/j.ijnurstu.2014.04.005>
- [24] Lebel S, Castonguay M, Mackness G, et al. The psychosocial impact of stigma in people with head and neck or lung cancer. *Psycho-oncology*. 2013, 22(1), 140–152. <https://doi.org/10.1002/pon.2063>
- [25] Lehto RH. Patient views on smoking, lung cancer, and stigma: A focus group perspective. *European journal of oncology nursing*. 2014, 18(3), 316–322. <https://doi.org/10.1016/j.ejon.2014.02.003>
- [26] Marlow LAV, Waller J, Wardle J. Does lung cancer attract greater stigma than other cancer types? *Lung cancer*. 2015, 88(1), 104–107. <https://doi.org/10.1016/j.lungcan.2015.01.024>
- [27] Mishra N. Study of psychiatric disorders in women with cervical and breast cancer [Doctoral dissertation, Rajiv Gandhi University of Health Sciences];2010.
- [28] Mohabbat-Bahar S, Bigdeli I, Mashhadi A, et al. Investigation of stigma phenomenon in cancer: A grounded theory study. *Iranian journal of cancer prevention*. 2017, 10(2), e6596. <https://doi.org/10.17795/ijcp-6596>
- [29] Ogawa A, Shimizu K, Akizuki N, et al. Involvement of a psychiatric consultation service in a palliative care team at the Japanese Cancer Center Hospital. *Japanese journal of clinical oncology*. 2010, 40(12), 1139–1146. <https://doi.org/10.1093/jjco/hyq147>
- [30] Palgi Y, Shrira A, Haber Y, et al. Comorbidity of posttraumatic stress symptoms and depressive symptoms among gastric cancer patients. *European journal of oncology nursing*. 2011, 15(5), 454–458. <https://doi.org/10.1016/j.ejon.2010.11.011>
- [31] Shen MJ, Hamann HA, Thomas AJ, et al. Association between patient-provider communication and lung cancer stigma. *Supportive care in cancer*. 2016, 24(5), 2093–2099. <https://doi.org/10.1007/s00520-015-3014-0>
- [32] Simpson JS, Carlson LE, Beck CA, et al. Effects of a brief intervention on social support and psychiatric morbidity in breast cancer patients. *Psycho-oncology*. 2002, 11(4), 282–294. <https://doi.org/10.1002/pon.565>
- [33] Swai PJ. Psychiatric morbidity among adult cancer patients admitted at Ocean Road Cancer Institute [Master's thesis]. University of Nairobi. 2011.
- [34] Threader J, McCormack L. Cancer-related trauma, stigma and growth: The 'lived' experience of head and neck cancer. *European journal of cancer care*. 2016, 25(1), 157–169. <https://doi.org/10.1111/ecc.12320>
- [35] Weiss J, Yang H, Weiss S, et al. Stigma, self-blame, and satisfaction with care among patients with lung cancer. *Journal of psychosocial oncology*. 2017, 35(2), 166–179. <https://doi.org/10.1080/07347332.2016.1228095>
- [36] Yağan S. Comparison of cancer patients and their relatives with non-terminal patients and their relatives in terms of some psychological variables [Master's thesis]. Atatürk University; 2001.
- [37] Yılmaz M, Dişsiz G, Göçmen F, et al. Turkish validity and reliability study of the Cancer Stigma Assessment Scale - Community Version. *Anatolia journal of nursing and health sciences*. 2017, 20(2), 99–106
- [38] Çağdaş HY, Güveli H, Hocaoglu Ç. Psychiatric approach in terminal patients. *Literature symposium*. 2014, 1(2), 43–50.
- [39] Türkçapar H. Diagnostic relationships of anxiety disorder and depression. *Clinical psychiatry*. 2004, 4, 12–16.
- [40] Bağ B. Depression in cancer patients. *Current approaches in psychiatry*. 2014, 6(2), 186–198. <https://doi.org/10.5455/cap.20131009062433>
- [41] Walker J, Hansen CH, Martin P, Sawhney A, Thekkumpurath P, Beale C, Symeonides S, Wall L, Murray G, Sharpe M. Prevalence of depression in adults with cancer: A systematic review. *Annals of oncology*. 2013, 24(4), 895–900. <https://doi.org/10.1093/annonc/mds575>
- [42] Abbey G, Thompson SBN, Hickish T, Heathcote D. A meta-analysis of prevalence rates and moderating factors for cancer-related post-traumatic stress disorder. *Psycho-oncology*. 2015, 24(4), 371–381. <https://doi.org/10.1002/pon.3654>
- [43] Eker A, Aslan E. Psychosocial approach in gynecological cancer patients. *Journal of education and research in nursing*. 2017, 14(4), 298–303. <https://doi.org/10.5222/HEAD.2017.298>
- [44] Yıldız E, Dedeli Çaydam Ö. Systematic review: A systematic analysis of research on stigma toward cancer patients. *Health and society*. 2020, 30(1), 10–18.