ONCOLOGÍA
roe-solca.ec
SYSTEMATIC REVIEW

Psychiatric disorders after first-time cancer diagnosis: Systematic review.

Psychiatric disorders after first-time cancer diagnosis: A systematic review.

***Correspondence:**

klyeli84@gmail.com

Zamora and 4th Transversal, Urbanization Nueva Vida Lot 58 (Valle de los chillos). Telephone 593 0960043500

Conflict of interests: The authors declare not to have any interest conflicts.

Received: January 16, 2022
Accepted: March 9, 2022
Published: April 4, 2022
Editor: Dr. Evelyn Valencia Espinoza.

Bibliographic letterhead:
Vivanco K, Ibañez J, Estévez L. Psychiatric disorders after first-time cancer diagnosis: Systematic review. Rev. Oncol. Ecu 2022;32(2):55-70.

DOI:https://doi.org/10.33821/602

Karla Elizabeth Vivanco Muñoz*1, Jose Luis Ibanez Limaico1, Luis Edmundo Estevez Montalvo1

1. *Postgraduate degree in Psychiatry, Faculty of Medical Sciences, Central University of Ecuador, Quito, Ecuador.*

Abstract

Introduction: Cancer patients are at increased risk of developing signs, symptoms, psychiatric disorders, and suicide. The objective of this systematic review was to collect evidence regarding psychiatric dis- orders after the first oncological diagnosis and obtain quality information on their frequency, impact onthe patient, and treatment in the world.

Methodology: Systematic review of the literature published from January 2016 to March 2021. The sources of information were articles from journals indexed in databases, such as PubMed, Wiley Online Library, and Google Scholar. Scientific papers on psychiatric disorders after cancer diagnosis were in- cluded; from 2016 to March 2021; in Spanish or English, original, with an observational, analytical, pro- spective, retrospective, cross-sectional, case series, systematic review, and meta-analysis design, with a level of quality of evidence according to the GRADE system "High and Moderate" and a grade of com-pliance with CONSORT, PRISMA-p, or STROBE ≥ 75%.

Results: Nineteen articles were included, with a total population of 6,377,483 adult patients. Among the most frequent mental disorders were anxiety (1.8%-78.8%), depression (4.2%-61.1%), and stress (1.9%- 56.1%). The appearance of these disorders was related to more significant symptoms and worse prog- nosis, increased hospital visits, and higher mortality (P < 0.05). The psychotherapeutic approach must be personalized and strengthen resilience, self-esteem, coping, and crisis resolution.

Conclusion: Psychiatric disorders after the first oncological diagnosis are frequent; they hurt patients' prognosis and quality of life. Timely diagnosis and treatment are necessary through a personalized psy-chotherapeutic scheme for each patient.

Keywords:
MESH: Neoplasms, Depression, Anxiety, stress, psychotherapy, Patient Health Questionnaire, Systematic Review.

DOI: 10.33821/602

Introduction

Condition Description

Distress is common among cancer patients. Approximately one-third of these patients have been reported to have mood disorders in the hospital setting. Beyond the burden of living with cancer and its treatments, receiving a cancer diagnosis is a very stressful event. An excessive or prolonged psychological reaction to the diagnosis may be associated with other serious health consequences, including various psychiatric disorders and, in severe cases, even sui- cide shortly after cancer diagnosis [1].

Cancer patients are at increased risk for psychiatric signs, symptoms, disorders, cardio- vascular disease, and suicide. Historically, severe comorbidities among cancer patients have been primarily attributed to the adverse effects of cancer treatments, the complex pathophys- iology of the underlying malignancy, or simply the burden of living with progressive and life- threatening diseases. Living with cancer not only induces an acute and chronic stress disor-der, but the cancer diagnosis itself is also very stressful [2].

Patients who develop everyday mood, anxiety, and substance abuse disorders after their first cancer diagnosis experience an increased risk of cancer-specific death; therefore, a psy- chiatric disorder may be strongly associated with the survival perspective of patients after being diagnosed with cancer [3].

Psychiatric comorbidities, such as depression, anxiety, substance abuse, somatoform conversion disorder, and adjustment disorders, are common among cancer patients and may reflect the broader spectrum of psychological distress experienced by these patients [4].

In this sense, we will note that emotional distress ends up being a normal response after a cancer diagnosis that, for most people, resolves spontaneously. However, for some, it per- sists for years after treatment. For example, the annual prevalence of major depression or generalized anxiety disorder remains 22% in the fourth year after a breast cancer diagnosis, and the lifetime prevalence of cancer-related posttraumatic stress disorder (PTSD) is 10% to12% for breast cancer and 20% for other cancers [5].

Signs and symptoms must first be identified to manage and treat psychiatric disorders among people with cancer effectively. However, several social and clinical barriers have been reported. A key issue is the physician's lack of time to assess symptoms. Additionally, nor- malization of anguish and the attribution of somatic symptoms of depression and anxiety to cancer have been reported [6]. Patients may not disclose psychiatric symptoms due to the stigma surrounding mental disorders. Screening for depression and anxiety among cancer patients is essential if it leads to effective treatment and support to improve patient outcomes [7].

The problem that gives rise to this research arises from the need to have recent evidence on the most frequent psychiatric disorders after the first diagnosis of oncological diseases, its diagnosis, and the therapeutic approach according to international guidelines. It is essen- tial to investigate this topic since the mental health of cancer patients can directly affect their recovery and adherence to treatment. It is critical to identify and promptly treat any psychiatric disorder that appears due to an impactful event in people's lives, as is a cancer diagnosis.

Taking into account the growing evidence of the association between the first oncologi- cal diagnosis and mental disorders, the objective of this research is to collect evidence about psychiatric disorders after the first oncological diagnosis through a systematic review of the

literature published from January 2016 to March 2021 to obtain quality information on its frequency, impact on the patient and treatment in the world.

The need to carry out this review arises from the lack of an updated summary of the available evidence in this regard and the lack of updated national management guidelines that provide medical personnel, especially in the area of psychiatry, with adequate management and under protocols of patients who have been recently diagnosed with cancer. This will be beneficial because it will facilitate evidence-based decision-making on the most frequent psychiatric disorders after a cancer diagnosis, their manifestations, the primary strategies necessary for diagnosis and treatment, and all guided by international standards, according to current knowledge.

This work will allow psychiatry professionals to have elements that support the timely diagnosis and treatment of psychiatric disorders in patients with a recent diagnosis of an oncological disease. They will enable the proper use of guidelines by the guidelines of different countries of the world, contributing to improving the mental health needs of these patients.

Materials and methods

Type of study:
The present study is a systematic review.

Information sources:
Articles from indexed journals were used as primary sources of information. The secondary sources of information were databases of quality scientific information, such as PubMed, Medes, Lilacs, Scopus, APA Psycnet, and academic Google.

Search strategies:
To perform the search, the following health sciences descriptor terms were used: "Cancer diagnosis" OR "new-onset cancer" OR "new cancer diagnosis" OR "recent cancer diagnosis" AND "Mental disorders" OR "Psychiatric illness" OR "Psychiatric disorder" OR "Mental health problems" OR "Anxiety disorders" OR "Mood disorders" OR "Depressive disorders" OR "Sleep- wake disorders" OR "Trauma and stressor-related disorders" OR "Behavioral symptoms" OR "Suicidal ideation" OR "Suicide attempt" AND "English (lang)" OR "Spanish (lang)."

Inclusion criteria
Scientific articles on psychiatric disorders after a cancer diagnosis, published in Spanish or English from January 2016 to March 2021, were included. The original articles included had any of the following designs: observational, analytical, prospective, retrospective, cross-sec- tional, case series, systematic reviews, and meta-analyses. The level of quality of the evidence was determined according to the GRADE system of "High and Moderate," with a degree of compliance of CONSORT, PRISMA-p, or STROBE ≥ 75%.

Exclusion criteria

Duplicate publications, executive summaries, paid access publications, articles without a declaration of bioethical considerations, and publications without manifestations of conflict of interest.

PEAK Strategy

P: Patients with a cancer diagnosis for the first time.

I: Review of the evidence on psychiatric disorders after a cancer diagnosis.

C: Does not apply.

O: Psychiatric disorders after first-time cancer diagnosis: types, risk factors, diagnosis, treatment, impact on prognosis and patient survival.

Research questions

- *What are the primary psychiatric disorders after the first cancer diagnosis?*
- *How do psychiatric disorders influence the prognosis and evolution of cancer pa-tients?*
- *What psychotherapeutic interventions are recommended for the treatment of thesepatients?*

Techniques and procedures

The Prisma-p methodology was followed for systematic reviews. Initially, the search and se- lection of the articles were carried out in specialized databases using the MESH terms de- scribed above. Articles that met the above criteria were selected. After selecting the reports, a database was created, compiling the following information: title, year, authors, database where it was found, traceability, keywords, study design, population analyzed, intervention, the results, and results. Conclusions. To analyze the quality of the evidence, the GRADE system was used. To estimate the risk of bias, the Cochrane methodology was used. After this, we synthesized the information obtained for the article's writing.

Results

Thirty-five articles were identified, of which two were eliminated because they were dupli-cates; another two for having been published in languages other than Spanish or English; 6 for having been carried out with surviving patients of oncological diseases; 1 for including patients under 18 years of age; 4-degree theses; and 1 for having an unclear and nonrepro- ducible methodology. Nineteen articles remained part of this review at the end of this process.See Figure 1.

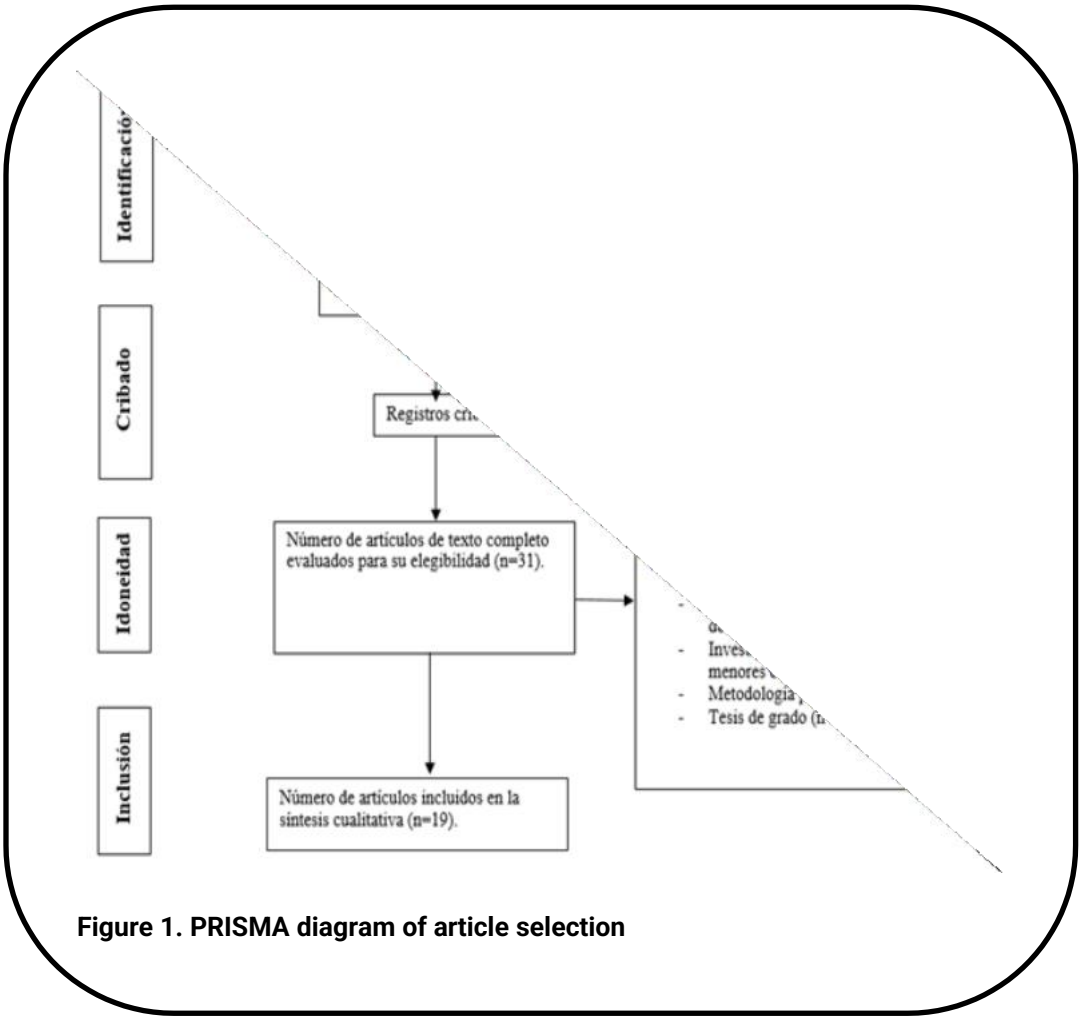

Figure 1. PRISMA diagram of article selection

Of the 19 articles analyzed, 68.4% were identified in PubMed, 10.5% in the Wiley Online Li-brary and BMC, and 5.3% in Elsevier and Researchgate. See table1.

Table 1. traceability

Author (year)	Magazine	impact factor	Reposi-tory	% che-cklist	Risk of bias	Quality of evi-dence	URLs
Niedzwiedz (2019)	BMC cancer	3,211	Pubmed	89.47%	Interme-diate	Half	BMC/12885
huh (2020)	Med BMC	6,782	Pubmed	95.45%	Under	high	PMID32900363
Wang (2020)	Transl. psycho-logy	5,182	Elsevier	90.91%	Under	high	nature00950
Harris (2017)	J Behav Med	2,988	Pubmed	100%	Under	high	PMC5733144
Zedron (2018)	Clinics	1,435	Pubmed	95.45%	Under	high	PMC6224708
Lee (2019)	JAMA ENT	3,848	Pubmed	100%	Under	high	PMID30816930
Caruso (2017)	Oncol Act	3,701	Pubmed	89.47%	Intermedi-ate	Half	PMID28140731
Klaase n(2019)	Cancer	5,742	Pubmed	100%	Under	high	PMID31021430
Zhou (2017)	Ann Oncol	18,274	Pubmed	95.45%	Under	high	PMID28525559
Yang (2017)	Int J Cancer	5,145	Wiley on	95.45%	Under	high	Wiley/10.1002/3
Ludolf (2019)	Dtsch arztebl int	5,046	Pubmed	89.47%	Intermedi-ate	Half	PMC6976915
Lu (2016)	JAMA Oncology	24,799	Pubmed	95.45%	Under	high	PMID27124325
Zhou (2018)	BMC Cancer	3,211	Pubmed	100%	Under	high	PMID29580232
Schell (2019)	Cochrane	7.89	Pubmed	100%	Under	high	PMC6436161
Said (2019)	Cancer	5,742	Pubmed	100%	Under	high	PMID30613943
ng (2017)	Pls One	2.74	Pubmed	90.91%	Under	high	PMID28296921
Trudel (2018)	Health Psychol	3.53	Pubmed				PMC5837921
Salm (2021)	Psycho-Oncol-ogy	3,455	Wiley	95.45%	Under	high	Wiley/10.1002/5
Shejilah (2017)	Indian J Public Health Res Dev	0.124	research gate	90.91%	Under	Half	researchgate/3

The articles that were part of this review were published between 2016 and March 2021 and included a total population of 6,377,483 adult patients diagnosed with an oncoproliferative process in a maximum period of six previous months. Of the articles selected, 42.1% analyzed oncological diseases in general [4;8-13], while 26.3% of the articles focused on breast cancer[14-18].

What is the behavior of the major mental disorders after the diagnosis?

When analyzing the major mental disorders presented after receiving the oncological diagno- sis, most of the consulted investigations mentioned anxiety, with a prevalence between 1.8% and 78.8%, and depression, with figures ranging from 4.2% to 61.1%. Other frequent mental disorders were those related to stress, from 1.88% to 56.1%, risk of suicide (4.8%) and suicide, up to 8.2 cases per 1,000 cancer diagnoses [8-13; fifteen;17-twenty-one;24]. See table two.

For Yang et al. (2017), the risk of developing mental disorders was OR: 4.22 (95% CI: 3.44- 5.19) in the first six months of diagnosis, and younger women had a higher risk of developing these mental disorders (P < 0.05). Lu et al. (2016) determined that the risk of developing men- tal disorders increased up to 6.7 times in the first week after diagnosis. (HR: 6.7; 95% CI: 6.1-7.4). See table two.

Saad et al. (2019) observed suicide in the first six months after diagnosis (0.16%); furthermore, the risk of committing suicide was up to 3.2 times in the first semester after diagnosis. Suicide was significantly related to cancer type (pancreatic and lung) and prognosis (P < 0.05). See table two.

Additionally, Caruso et al. (2017) describe the risk factors for developing mental disorders related to depression after receiving a cancer diagnosis; categorizing them into individual characteristics, such as the presence of a family history of mood disorders, a history of mood disorders, alcohol or drug addiction, type D personality traits (emotional repression, poor cop- ing mechanisms, such as hopelessness and helplessness); social factors, such as the history of stressful life events (especially losses), loneliness, social isolation, low socioeconomic sta- tus, lack of social support, and biological factors, including advanced diagnosis or metastasis. Type of neoplasm (head and neck, pancreas, brain, lungs). Difficult-to-control symptoms: vomiting, pain, fatigue. See table two.

Table 2. Central mental disorders after cancer diagnosis

Author (year)	Depression	Anxiety	post-traumatic stress	Hostility	Suicide risk	Others
Niedzwiedz (2019)	17%	27%	-		-	
huh (2020)	1.8%	1.8%	1.8%		-	
Wang (2020)	17.7%	23.4%	9.3%	13.5%	-	
Zedron (2018)	6.8%	10.8%			4.8%	Alcoholism 2.8%
Klaasen (2019)	NR	NR	NR		0.82%	8.2 Suicides X 1000
Zhou (2017)	42.97%	28.48%	11.5%			Substance abuse 12.8%
Yang (2017)	4.2%	4.6%	1.9%			OR 4.22 (3.44-5.19)
Ludolf (2019)	NR	NR	NR			HR 6.7 (6.1-7.4)
Zhou (2018)	1.8%	1.8%	1.8%			
Said (2019)	NR	NR	NR		0.19%	
ng (2017)	-	-	51.6%			
Trudel (2018)	38.9%	61.1%	-			
Salm (2021)	31.1%	11.2%	9.2%			
Shejilah (2017)	-	6.2%	16%			

How do mental disorders influence the prognosis of cancer patients?

In an investigation carried out by Harris et al. (2017), women who experienced trauma- and stress-related disorders after diagnosis were found to have more significant bothersome symptoms, such as pain and fatigue (P < 0.05). See table3.

On the other hand, Zhu et al. (2017, 2018) established that the appearance of mental disorders after diagnosis was significantly related to cancer mortality (P <0.05). Similarly, pa- tients with stress factors related to cancer diagnosis had higher rates of hospital admissions (for other reasons) in the first three months after diagnosis. Men and younger patients more frequently suffered trauma-related disorders and stress factors after a cancer diagnosis. Seetable3.

In another work carried out by Ng et al. (2017), it was observed that anxiety and depres- sion contributed to the feeling of distress in breast cancer in newly diagnosed women (P < 0.05). For Trudel et al. (2018), high anxiety levels were related to unhealthy lifestyles, so they mentioned that the most elevated symptoms of anxiety and depression were associated with a lifestyle among women with colorectal cancer. Less healthy life in the ten years after diag- nosis. See table3.

Salm et al. (2021) found that men were less likely to receive an adequate diagnosis or treatment for mental disorders after cancer diagnosis (P < 0.05), while Shejila et al. (2017) observed that duration of diagnosis of more than two weeks was significantly associated with the levels of stress and anxiety (P <0.05). See table3.

Table 3. Influence of mental disorders on prognosis

Author (year)	Impact of mental disorders in cancer patients
Harris (2017)	After diagnosis, women who experienced episodic or chronic stress episodes had more bothersome symptoms, such as pain and fatigue (P < 0.05).
Zhou (2017)	After diagnosis, the appearance of mental disorders was significantly related to cancer mortality (P < 0.05).
Zhou (2018)	Patients with stress disorder related to cancer diagnosis had higher rates of hospital admissions (for other causes) in the first three months after diagnosis. Men and younger patients more frequently suffered from stress-related disorders after a cancer diagnosis.
ng (2017)	Anxiety and depression contributed to feelings of distress in newly diagnosed breast cancer women (P < 0.05). In this study, anxiety levels at diagnosis would warrant anxiety screening, early identification, and therapy to maintain psychological well-being in breast cancer patients.
Trudel (2018)	High levels of anxiety were related to unhealthy lifestyles. Among women with colorectal cancer, higher symptoms of anxiety and depression were associated with a less healthylifestyle in the ten years after diagnosis.
Salm (2021)	Men were less likely to receive an adequate diagnosis or treatment for mental disorders after cancer diagnosis (P < 0.05).
Shejilah (2017)	The duration of the diagnosis for more than two weeks was significantly associated with levels of stress and anxiety (P < 0.05).

How can psychotherapeutic interventions be developed with patients who have received a re-cent cancer diagnosis?

When inquiring about the importance of psychotherapeutic interventions in these patients, the need to include psychiatric consultation within the management protocols of cancer patientswas evidenced [4]. See table4.

Niedziedz et al. (2019) recommend using psychotherapy, psychoeducation, relaxation tech- niques, improvement of quality of life, and cognitive behavioral therapy, clarifying that it mustbe a personalized approach based on the patients' individual needs. See table4.

In addition, Ludolph et al. (2019) describe a series of possibilities in interventions to de- velop resilience in patients with a recent cancer diagnosis, among which are the development of cognitive flexibility, self-efficacy, social support, active coping skills, the strengthening of positive emotions, optimism, the sense of coherence, the reinforcement of the meaning of life, and aspects related to the development of self-esteem and spirituality. See table4.

On the other hand, Schell et al. (2019) mention that mindfulness-based stress reduction (MBSR) reduces depression, fatigue, and anxiety and probably improves sleep quality in pa- tients with a recent cancer diagnosis. These results were maintained up to six months after the intervention program, but this impact diminished after the first two years after receiving the cancer diagnosis. See table4.

Table 4. Psychotherapeutic interventions in recently diagnosed cancer patients with mental disorders

Author (year)	Impact of mental disorders in cancer patients
Niedziedz, (2019)	Personalized approach. Psychotherapy Psychoeducation. relaxation techniques Improvement of the quality of life. Cognitive-behavioral therapy).

Mon., (2016)	*Psychiatric consultation was included within the management protocols for cancer patients.*
Ludolf, (2019)	*Resilience development strategies in cancer patients:* *- Cognitive flexibility: Positive reappraisal by identifying and reappraising dysfunctionalthoughts and replacing them with more functional/positive reviews. Self-efficacy: Improving the ability to manage expectations and fears of future events (such as recurrences, treatments, social and economic problems).* *- Social support: Communication exercises to improve the expression of emotions and ex-periences related to the disease; establishment of reciprocal relations and hierarchical with therapists.* *- Active coping: Support symptom control through education and training in, for example, breathing exercises and meditation.* *- Positive emotions: Exercises to increase attention to positive moments of attention andinterpretation therapy.* *- Optimism: Group discussions, role plays, promotion of the upbeat attribution style.* *- Sense of coherence: Build an individual narrative to integrate the experience of the dis-ease in the life story, for example, using expressive writing.* *- The meaning of life: discussions about the attitudes and values that have changed since the disease diagnosis.* *- Self-esteem: Identification of personal strengths.* *- Religiosity, spirituality: Meditation exercises.*
Schell, (2019).	*Mindfulness-based stress reduction (MBSR) reduces depression, probably slightly reduces fatigue and anxiety, and improves sleep quality. Up to six months later, MBSR probably slightly reduces pressure, enhances sleep quality, and slightly reduces depression. There was a benefit on fatigue at the end of the intervention, but not until six months later.*

Discussion

The oncological diagnosis brings many challenges to the patient's well-being, with an essen- tial impact on feelings of fear, isolation, loss of self-esteem, and independence. How health professionals relate to service users before, during, and after diagnosis also impacts patients' mental health since good communication and a good doctor-patient relationship can pro- mote welfare. Practical support must be built around personalized, need-based initiatives to ensure that the proper license is available at the right time [22].

In this review, it was observed that the significant mental disorders associated with the first cancer diagnosis were anxiety, depression, and stress-related illnesses, with variable prevalence figures [8;10-13; 15-17-21;23;24], which could be explained by the heterogeneity of the subjects and the designs of the studies analyzed, as well as the diversity of the instru-ments used to diagnose depressive disorders.

The experience of receiving a cancer diagnosis, significantly if it has been delayed, can be a significant source of distress and affect acceptance of the disease. Feelings of hopeless- ness, loss of control, and uncertainty around survival and death can also have a detrimental impact, especially in patients with poor prognoses [25].

Anxiety around a cancer diagnosis can also cause sleep disturbances, increasing the risk of depression. The stigma surrounding psychiatric illnesses and certain types of cancer, such as lung cancer, can lead to feelings of guilt and shame, contributing to the onset of depression [26]. For example, tobacco use disorder and lung cancer may lead some patients to blame themselves for their illness and experience stigma if they have smoked [27].

On the other hand, Klaessen et al. (2019) determined that in patients who had a history of using psychiatric services before diagnosing neoplastic disease, there is a greater probability of experiencing significant effects on mood and health. Mental health is also associated with

higher cancer-specific mortality and general mortality from any cause. Therefore, particular emphasis is placed on personalized and specific psychiatric care for these patients after a cancer diagnosis.

Another important finding in this investigation was the increased risk of suicide in the first months after receiving a cancer diagnosis [23]. These results can be supported by the reports of other researchers, such as O'Hea (2020), who determined that up to 20% of new cancer patients develop suicidal ideas, with a significant increase in the risk of suicide and acts of suicide. Consummated. These researchers identified specific factors that characterize people at increased risk of suicide. The types of cancer associated with exceptionally high stakes are mesothelioma and neoplasms of the pancreas, lung, esophagus, and stomach, usually char-acterized by a poor prognosis.

Regarding the influence of the appearance of these mental disorders on the evolution ofcancer patients, the consulted investigations indicate that it is related to a more significant presence of symptoms such as pain, nausea, and vomiting, with an increase in mortality, un-healthy lifestyles, and the use of medical services for reasons other than cancer [13-15;17;28].In this regard, the diagnosis and treatment of cancer can lead to increased psychological distress in many people. Changes in quality of life, anxiety, and depression are consequences of cancer diagnosis and treatment.

Regarding treatment options and psychotherapeutic interventions for managing psychiatric disorders in cancer patients, the consulted literature indicates that it must have a personalized approach, with psychotherapy techniques focused on developing resilience, self-esteem, coping, and crisis resolution [4;20;29].

These results highlight the need to include psychiatric care in the cancer patient care team since there is evidence that relates the diagnosis of neoplastic disease with the appearance of anxiety, stress, and anguish, which in turn has been associated with a worse prognosis and the presence of essential symptoms that affect the quality of life of these patients.

Thus, it is necessary to promptly diagnose and treat these disorders using personalized psychotherapeutic intervention strategies, depending on the therapist's experience and the quality of the available evidence.

Proper detection and diagnosis of anxiety disorders and trauma- and stress-related conditions in cancer patients can improve patient outcomes. Especially regarding gender differences, there is consensus that men are more likely not to seek specialized care and suffer more significant effects due to high levels of anxiety, depression, and stress-related disorders[11].

This finding agrees with Unseld et al.'s (2019) statements that explain these differences because women are more likely to perceive and articulate symptoms of emotional stress, while men tend to mask or deny the presence of these symptoms, resulting in underdiagnosis and poor treatment of psychiatric comorbidities. This possible lack of diagnosis and treat- ment could contribute to a lower quality of life and a worse outcome in patients with onco- logical diseases.

Consequently, the results of this research show the need to deepen the study of new-onset mental disorders in cancer patients and the need to implement strategies for early diagnosisand appropriate psychotherapeutic approaches to these disorders.

As a limitation of this research, it can be mentioned that a quantitative analysis (meta-analysis) of the available evidence was not carried out, so the results show only a qualitative analysis of the information.

Conclusion

In patients who have received a recent cancer diagnosis, the appearance of disorders related to anxiety, trauma and stress factors, and depressive disorders is frequent, with variable prev- alence, depending on the type of neoplasm, the population, the prognosis, and the severity of the disease. When they appear, these disorders hurt the quality of life, symptoms, lifestyle, and survival of cancer patients; for this reason, it is necessary to guarantee timely diagnosis and treatment through a personalized psychotherapeutic approach, according to the needs of patients, aimed at strengthening resilience skills, self-esteem, coping and crisis resolution.

Acknowledgments

Does not apply.

Administrative information

abbreviations

undeclared

Additional Files

The authors declare none.

Editor's Note

Revista Oncología Ecu remains neutral with respect to jurisdictional claims on published maps and institutional affiliations.

Money

The research funds belonged to the author of this article.

Availability of data and materials

Data availability is available upon request to the corresponding author. No other materials were reported.

Author contributions

Karla Elizabeth Vivanco Muñoz: Conceptualization, Data Curation, Formal Analysis, Fundraising, Research, Writing - Original Draft, Resources,

José Luis Ibañez Limaico: Methodology, Project management, software, Supervision, Validation, Visualization.

Luis Edmundo Estévez Montalvo: Writing: revision and edition, Supervision, Validation.

All authors read and approved the final version of the article.

Consent to publication

Does not apply to a systematic review.

References

1. *Zhu J, Fang F, Sjölander A, Fall K, Adami HO, Valdimarsdóttir U. First-onset mental disorders after cancer diagnosis and cancer-specific mortality: a nationwide cohort study. Ann Oncol. 2017 Aug 1;28(8):1964- 1969. DOI: 10.1093/annonc/mdx265. PMID:28525559*

2. *Ahn MH, Park S, Lee HB, Ramsey CM, Na R, Kim SO, Kim JE, Yoon S, Hong JP. Suicide in cancer patients within the first year of diagnosis. Psychooncology. 2015 May;24(5):601-7. DOI: 10.1002/pon.3705. Epub 2014 Oct 21. PMID:25336020*

3. *Bidstrup PE, Christensen J, Mertz BG, Rottmann N, Dalton SO, Johansen C. Trajectories of distress, anxiety, and depression among women with breast cancer: Looking beyond the mean. Act Oncol. 2015 May;54(5):789-96. DOI: 10.3109/0284186X.2014.1002571. Epub 2015 Mar 11. PMID:25761086.*

4. *Lu D, Andersson TM, Fall K, Hultman CM, Czene K, Valdimarsdóttir U, Fang F. Clinical Diagnosis of Mental Disorders Immediately Before and After Cancer Diagnosis: A Nationwide Matched Cohort Study in Sweden. JAMA Oncol. 2016 Sep 1;2(9):1188-96. DOI: 10.1001/jamaoncol.2016.0483. Erratum in: JAMA Oncol. 2016Sep 1;2(9):1244. PMID:27124325.*

5. *Cook SA, Salmon P, Dunn G, Holcombe C, Cornford P, Fisher P. The association of metacognitive beliefs with emotional distress after a cancer diagnosis. Health Psychol. 2015 Mar;34(3):207-15. DOI: 10.1037/hea0000096. Epub 2014 Aug 18. PMID:25133826; PMCID: PMC4321533.*

6. *May FP, Yano EM, Provenzale D, Steers WN, Washington DL. Race, Poverty, and Mental Health Drive Colo- rectal Cancer Screening Disparities in the Veterans Health Administration. MedCare. 2019 Oct;57(10):773- 780. DOI: 10.1097/MLR.0000000000001186. PMID:31415338.*

7. *Götze H, Friedrich M, Taubenheim S, Dietz A, Lordick F, Mehnert A. Depression and anxiety in long-term survivors 5 and 10 years after cancer diagnosis. Support Care Cancer. 2020Jan;28(1):211-220. DOI: 10.1007/s00520-019-04805-1. Epub 2019 Apr 18. PMID:31001695.*

8. *Hu K, Sjölander A, Lu D, Walker AK, Sloan EK, Fall K, Valdimarsdóttir U, Hall P, Smedby KE, Fang F. Aspirin and other nonsteroidal anti-inflammatory drugs and depression, anxiety, and stress-related disorders. Fol- lowing a cancer diagnosis: a nationwide register-based cohort study. BMC Med. 2020 Sep 9;18(1):238. DOI: 10.1186/s12916-020-01709-4. PMID:32900363; PMCID: PMC7487710.*

9. *Klaassen Z, Wallis CJD, Chandrasekar T, Goldberg H, Sayyid RK, Williams SB, Moses KA, Terris MK, Nam RK, Urbach D, Austin PC, Kurdyak P, Kulkarni GS. Cancer diagnosis and risk of suicide after accounting for pre- diagnosis psychiatric care: A matched cohort study of patients with incident solid-organ malignancies. Can- cer. 2019 Aug 15;125(16):2886-2895. doi:10.1002/cncr.32146. Epub 2019 Apr 25. PMID:31021430.*

10. Saad AM, Gad MM, Al-Husseini MJ, AlKhayat MA, Rachid A, Alfaar AS, Hamoda HM. Suicidal death within a year of a cancer diagnosis: A population-based study. Cancer. 2019 Mar 15;125(6):972-979. DOI: 10.1002/cncr.31876. Epub 2019 Jan 7. PMID:30613943.

11. Salm S, Blaschke K, Ihle P, Schubert I, Dresen A, Pfaff H, Scholten N. Mental disorders and mental health services in newly diagnosed cancer patients: An analysis of German health insurance claims data. Psy- chooncology. 2021 Mar;30(3):312-320. DOI: 10.1002/pon.5579. Epub 2020 Oct 30. PMID:33089560.

12. Wang Y, Duan Z, Ma Z, Mao Y, Li X, Wilson A, Qin H, Ou J, Peng K, Zhou F, Li C, Liu Z, Chen R. Epidemiology of mental health problems among patients with cancer during COVID. -19 pandemic. Transl Psychiatry. 2020 Jul 31;10(1):263. DOI: 10.1038/s41398-020-00950-y. PMID:32737292; PMCID: PMC7393344.

13. Zhu J, Sjölander A, Fall K, Valdimarsdottir U, Fang F. Mental disorders around cancer diagnosis and in- creased hospital admission rate - a nationwide cohort study of Swedish cancer patients. BMC Cancer. 2018 Mar 27;18(1):322. DOI: 10.1186/s12885-018-4270-4. PMID:29580232; PMCID: PMC5870174.

14. Harris LN, Bauer MR, Wiley JF, Hammen C, Krull JL, Crespi CM, Weihs KL, Stanton AL. Chronic and episodic stress predict physical symptoms bother following a breast cancer diagnosis. J Behav Med. 2017 Dec;40(6):875-885. DOI: 10.1007/s10865-017-9855-x. Epub 2017 May 20. PMID:28528393; PMCID: PMC5733144.

15. Ng CG, Mohamed S, Kaur K, Sulaiman AH, Zainal NZ, Taib NA; MyBCC Study group. Perceived distress and its association with depression and anxiety in breast cancer patients. PLoS One. 2017 Mar 15;12(3):e0172975. DOI: 10.1371/journal.pone.0172975. PMID:28296921; PMCID: PMC5351853.

16. Schell LK, Monsef I, Wöckel A, Skoetz N. Mindfulness-based stress reduction for women diagnosed with breast cancer. Cochrane Database Syst Rev. 2019 Mar 27;3(3): CD011518. Doi: 10.1002/14651858.CD011518.pub2. PMID:30916356; PMCID: PMC6436161.

17. Shejila, CH, Pai, MS, Fernandes, DJ, Mathew, S., Chakrabarty, J., Devi, ES, & George, A. (2017). The psycho- logical impact of cancer diagnosis in newly diagnosed breast cancer patients. Indian Journal of Public Health Research and Development, 8(3), 91–96. doi:10.5958

18. Yang H, Brand JS, Fang F, Chiesa F, Johansson AL, Hall P, Czene K. Time-dependent risk of depression, anxiety, and stress-related disorders in patients with invasive and in situ breast cancer. Int J Cancer. 2017 Feb 15;140(4):841-852. DOI: 10.1002/ijc.30514. Epub 2016 Nov 25. PMID:27859142.

19. Lee JH, Ba D, Liu G, Leslie D, Zacharia BE, Goyal N. Association of Head and Neck Cancer With Mental Health Disorders in a Large Insurance Claims Database. JAMA Otolaryngol Head Neck Surg. 2019 Apr 1;145(4):339-344. DOI: 10.1001/jamaoto.2018.4512. PMID:30816930; PMCID: PMC6481424.

20. Niedzwiedz CL, Knifton L, Robb KA, Katikireddi SV, Smith DJ. Depression and anxiety among people living with and beyond cancer: a growing clinical and research priority. BMC Cancer. 2019 Oct 11;19(1):943. DOI: 10.1186/s12885-019-6181-4. PMID:31604468; PMCID: PMC6788022.

21. Trudel-Fitzgerald C, Tworoger SS, Poole EM, Zhang X, Giovannucci EL, Meyerhardt JA, Kubzansky LD. Psy- chological symptoms and subsequent healthy lifestyle after a colorectal cancer diagnosis. Health Psychol. 2018 Mar;37(3):207-217. DOI: 10.1037/hea0000571. Epub 2017 Nov 20. PMID:29154605; PMCID: PMC5837921.

22. Mental Health Foundation Scotland. (2018). Supporting the emotional and mental health needs of people with cancer. HIS:mentalhealth.org

23. Klaassen Z, Wallis CJD, Goldberg H, Chandrasekar T, Sayyid RK, Williams SB, Moses KA, Terris MK, Nam RK, Urbach D, Austin PC, Kurdyak P, Kulkarni GS. The impact of psychiatric utilization before cancer diagnosis on survival of solid organ malignancies. Br J Cancer. 2019 Apr;120(8):840-847. DOI: 10.1038/s41416-019-0390-0. Epub 2019 Mar 6. PMID:30837680; PMCID: PMC6474265.

24. *Zendron M, Zequi SC, Guimarães GC, Lourenço MTC. Assessment of suicidal behavior and factors associ- ated with a diagnosis of prostate cancer. Clinics (Sao Paulo). 2018 Nov 14;73:e441. DOI: 10.6061/cli- nics/2018/e441. PMID:30462755; PMCID: PMC6224708.*

25. *Cook SA, Salmon P, Hayes G, Byrne A, Fisher PL. A systematic review of the literature predicts emotional distress a year or more after a cancer diagnosis. Psychooncology. 2018 Mar;27(3):791-801. DOI: 10.1002/pon.4601. Epub 2018 Jan 10. PMID:29318702; PMCID: PMC5873392.*

26. *Ball H, Moore S, Leary A. A systematic literature review compares patients' psychological care needs with mesothelioma and advanced lung cancer. Eur J Oncol Nurs. 2016 Dec;25:62-67. DOI: 10.1016/j.ejon.2016.09.007. Epub 2016 Oct 12. PMID:27865254.*

27. *Williamson TJ, Kwon DM, Riley KE, Shen MJ, Hamann HA, Ostroff JS. Lung Cancer Stigma: Does Smoking History Matter? Ann Behav Med. 2020 Jun 12;54(7):535-540. DOI: 10.1093/ABM/kaz063. PMID:31942920; PMCID: PMC7291332.*

28. *Trudel-Fitzgerald C, Tworoger SS, Poole EM, Zhang X, Giovannucci EL, Meyerhardt JA, Kubzansky LD. Psy- chological symptoms and subsequent healthy lifestyle after a colorectal cancer diagnosis. Health Psychol. 2018 Mar;37(3):207-217. DOI: 10.1037/hea0000571. Epub 2017 Nov 20. PMID:29154605; PMCID: PMC5837921.*

29. *Ludolph P, Kunzler AM, Stoffers-Winterling J, Helmreich I, Lieb K. Interventions to Promote Resilience in Cancer Patients. Dtsch Arztebl Int. 2019 Dec 23;51-52(51-52):865-872. doi: 10.3238/arztebl.2019.0865. PMID:31941574; PMCID: PMC6976915.*