Anxiety and Fear in Cancer Patients

Marius Ionuț PADURARU¹, Diana PADURARU²*, Teodora ALEXA-STRATULAT³, Anca NEAGU⁴, Marius NEAGU⁵, Vlad AFRASANIE⁶, Lucian MIIRON⁷, Alexandru Bogdan CIUBARA⁸, Magda ANTOHI⁹, Anamaria CIUBARA¹⁰

¹ University of Medicine and Pharmacy Grigore T. Popa, Iasi, Romania
² Hyperclinca Medlife Galati, Romania
³ University of Medicine and Pharmacy Grigore T. Popa, Iasi, Romania
⁴ University “Dunarea de Jos” of Galati, Galati Romania
⁵ University “Dunarea de Jos” of Galati, Galati Romania
⁶ Emergency County Hospital Suceava, Suceava, Romania
⁷ University of Medicine and Pharmacy Grigore T. Popa, Iasi, Romania
⁸ University “Dunarea de Jos” of Galati, Galati Romania
⁹ University of Medicine and Pharmacy Grigore T. Popa, Iasi, Romania
¹⁰ University “Dunarea de Jos” of Galati, Galati Romania

Corresponding author

Abstract: Anxiety is a highly prevalent disorder in cancer patients, but it is often underdiagnosed in this setting. Receiving diagnosis of cancer leads the establishment of several psychological dynamics: fear of dying, uncertainty, loss of control, change in interpersonal relationships and self-image. Several clinically significant studies have supported the belief that cancer patients are more apt to suffer from anxiety, stress, depression and other emotional challenges. The study focuses on anxiety among cancer patients. It aims at investigating cancer and symptoms the disease has on the anxiety level of patients.

Keywords: Anxiety; cancer; fear; patients.

How to cite: Paduraru, M.I., Paduraru, D., Alexa-Stratulat, T., Neagu, A., Neagu, M., Afrasanie, V., Miron, L., Ciubara, A.B., Antohi, M., & Ciubara, A. (2020). Anxiety and Fear in Cancer Patients. BRAIN. Broad Research in Artificial Intelligence and Neuroscience, 11(3), 197-206.

https://doi.org/10.18662/brain/11.3Sup1/136
Introduction

Cancer patients may frequently have psychological problems compared to other patients with chronic diseases. Many studies have shown that anxiety and depression are the most frequent psychological manifestations in cancer patients (Donoyama et al., 2018; Pitman et al., 2018; Wu & Harden, 2015). Many of these patients have symptoms of anxiety because receiving the diagnosis of cancer induces a number of feelings such as fear of treatment and side effects, worry over losing independence, fear of cancer spreading after treatment, fear of death. Anxiety disorders in oncological diseases may exacerbate symptoms such as pain, nausea and vomiting, may cause sleep disorders and interfere with the patients quality of life. In this article we review recent research into anxiety at patients with cancer.

Factors with a role in inducing of anxiety in cancer patients

A number of factors can influence the development of anxiety (Huidu, 2020) in cancer patients. Increased anxiety disorders are common upon diagnosis and in patients with advanced cancer, but are similar to those of the general population in cancer survivors 5 years after diagnosis (Linden et al., 2012; Smith, 2015). Anxiety disorders can be caused and exacerbated by a number of individual risk factors, common to those in the general population and include demographic factors such as age and gender, social and economic factors such as lack of social support and unemployment, low educational attainment (Phuong 2014; Thao & Dung 2016). Also, psychological factors are very important. A role in high rates of anxiety in cancer patients is the presence of pre-existing mental health diseases and their severity. Various researchs has demonstrated that patients experience excessive anxiety if they have been treated for mental health conditions before a cancer diagnosis (Klaassen et al., 2019; Musuza et al., 2013).

In one study was found to increase the odds of anxiety at patients how have experienced a severe adverse life event, either prior to or soon after cancer diagnosis (Saboonchi et al., 2014).

A number of factors related to the cancer, such as the type of cancer, stage, prognosis, its treatment and side effects are likely to a role in the development high rates of anxiety in these patients.

Anxiety on patients with cancer may have a negative impact. For example, anxiety may have a role in development to functional disorders, low treatment efficiency and longer hospitalization (Pitman et al., 2018).
Given the harmful negative effects of anxiety on cancer patients, identifying these risk factors is essential.

**Anxiety in cancer patients**

Patients' anxiety disorders can worry them so much that it can lead to a poorer quality of life. Anxiety can be assessed as an overwhelming event associated with the illusion of imminent danger, which is just a normal reaction for cancer patients. Patient anxiety increases or decreases at different times, may increase in patients with severe symptoms, functional disorders, low family and social support. Anxiety may worsen as the cancer spreads or the treatment becomes more toxic (Bolos et al., 2012).

The prevalence of anxiety among patients with cancer varies widely in the published literature. This is the result of a combination of factors associated with the type of cancer, the recommended treatment and the procedure used to identify the symptoms (Mitchell et al., 2013; Maass et al., 2015). The consequences for mental health are also important in addition to the type of cancer.

Anxiety tended to be lower before treatment (19%) and was higher during treatment (26%) and following treatment (27%), in a systematic review and meta-analysis study in patients with ovarian cancer (Watts et al., 2015). A similar systematic review of depression and anxiety showed that anxiety tended to be highest before treatment (27%) and lowered during treatment (15%) and following treatment (18%) in patients with prostate cancer (Watts et al., 2014).

A study indicated that 77% of patients within 2 years of treatment showed symptoms of anxiety (Ashbury et al., 1998). Some studies suggest high rates of anxiety even years after diagnosis (Burgess et al., 2005; Korfage et al., 2006). Fear of recurrence is one of the most commonly reported issues for cancer survivors (Simard et al., 2013). To a national survey of cancer survivors, almost 80 percent of respondents, reported some level of fear of recurrence as a concern (Beckjord et al., 2014).

Massie M. L. (2004) concluded in a review article that a series of cancers including oropharyngeal, pancreatic, breast and lung cancers are associated with high levels of anxiety and 13%–25% of colorectal cancer patients.

**The symptoms and the effects of anxiety in cancer patients**

Compared to the general population, cancer patients present higher rates of anxiety and depression (Hinz et al., 2010). The most common
symptoms, which may be physical or psychological in nature, are reported by cancer patients during and after treatment. The patient with cancer experience the most common symptoms like fatigue, nausea and pain, also digestive symptoms, such as vomiting or diarrhea (Thao & Dung 2016). In cancer patients, symptoms of the disease, such as fatigue and pain, can overlap with anxiety by delaying the diagnosis of anxiety (Lupu et al., 2015). Therefore, the quality of life can be improved and the feeling of anxiety can be reduced (Bochis & Sandra, 2018) by treating cancer.

Cancer diagnosis, treatment and side effects can cause various negative emotional reactions (Kennifer et al., 2009). Depression and anxiety in cancer patients often result in reduced treatment compliance, greater healthcare costs, longer hospitalization and decreasing chances of survival (Arrieta et al., 2013; Falagas et al., 2007).

An increased number of cancer patients who have symptoms of depression and anxiety may follow specific psychological or medical treatment. Baker-Glenn et al. (2011), in a study of cancer patients concluded that 36% of patients would have accepted treatment for mental health problems. Mols et al. (2013), in a study concluded that cancer survivors had a 2-fold risk for all-cause mortality if they associated anxiety and depressive symptoms.

The scientific evidence is limited and of varying quality in the treatment of anxiety and depression in cancer patients (Rodin et al., 2007). A number of studies concluded that specific treatments, such as psychotherapy, psychoeducation and relaxation techniques may reduce anxiety symptoms and improve patients' quality of life (Faller et al., 2013).

**Discussion**

Cancer patients react differently to mental health problems and how they cope with the anxiety. Anxiety in cancer survivors can be caused by altered body image, reproductive problems and sexual dysfunction. Other risk factors for cancer survivors are fear of follow-up examinations and fear of cancer recurrence. Some studies have shown the persistence of high rates of anxiety in cancer survivors (Burgess et al., 2005; Korfage et al., 2006).

The characteristic symptoms of cancer, such as fatigue and physical pain, overlap with the symptoms of psychological illness, making it difficult to differentiate and diagnose anxiety in these patients.

The quality of life in cancer patients is strongly influenced by the presence of increased rates of symptoms of depression and anxiety. Knowledge of the risk factors associated with psychological distress among
Anxiety and Fear in Cancer Patients
Mariüs Ionuţ PADURARU, et al.

in cancer patients can help clinicians to systematically identify patients and provide targeted psychosocial interventions to improve these patients mental health outcomes and quality of life.

Addressing patients with cancer to mental health specialists is warranted because cancer survivors had a 2-fold risk for all-cause mortality (Mols et al., 2013) and low quality of life if they associated anxiety and depressive symptoms.

In conclusion, paying particular attention to the presence of anxiety in patients cancer will allow health workers can provide them with proper psychological support as early as possible with impact on response to treatment and the evolution of cancer.

References

Arrieta, O., Angulo, L. P., Núñez-valencia, C., Dorantes-gallareta, Y., Macedo, E. O., Martínez-López, D., Alvarado, S., Corona-Cruz, J-F., & Oñate-Ocaña, L. F. (2013). Association of depression and anxiety on quality of life, treatment adherence, and prognosis in patients with advanced non-small cell lung cancer. Annals of Surgical Oncology, 20, 1941–1948. [https://doi.org/10.1245/s10434-012-2793-5]

Ashbury, F. D., Findlay, H., Reynolds, B., & McKerracher, K. (1998). A canadian survey of cancer patients’ experiences: Are their needs being met? Journal of Pain and Symptom Management, 16, 298–306. [https://doi.org/10.1016/s0885-3924(98)00102-x]

Baker-Glenn, E. A., Park, B., Granger, L., Symonds, P., & Mitchell, A. J. (2011). Desire for psychological support in cancer patients with depression or distress: validation of a simple help question. Psychooncology, 20(5), 525-531. [https://doi.org/10.1002/pon.1759]

Beckjord, E. B., Reynolds, K. A., van Londen, G. J., Burns, R., Singh, R., Arvey, S. R., Nutt, S. A., & Rechis, R. (2014). Population-level trends in posttreatment cancer survivors' concerns and associated receipt of care: results from the 2006 and 2010 LIVESTRONG surveys. Journal of psychosocial oncology, 32(2), 125–151. [https://doi.org/10.1080/07347332.2013.874004]

Bochis, L., & Sandra, F. (2018). Intervention Program To Reduce The Level Of Test Anxiety In A Primary School Class. A Pilot Study. Revista Romaneasca Pentru Educatie Multidimensional, 10(4), 23-31. [https://doi.org/10.18662/rrem/69]
Bolos, A., Ciubara, A.-M., & Chirita, R. (2012). Moral And Ethical Aspects Of The Relationship Between Depression And Suicide. *Revista Romana De Bioetica, 10*(3), 71-79.

Burgess, C., Cornelius, V., Love, S., Graham, J., Richards, M., & Ramirez, A. (2005). Depression and anxiety in women with early breast cancer: five year observational cohort study. *BMJ, 330*, 702. https://doi.org/10.1136/bmj.38343.670868.D3

Donoyama, N., Satoh, T., Hamano, T., Ohkoshi, N., & Onuki, M. (2018). Effects of Anma therapy (Japanese massage) on health-related quality of life in gynecologic cancer survivors: A randomized controlled trial. *PloS one, 13*(5), e0196638. https://doi.org/10.1371/journal.pone.0196638

Falagas, M. E., Zarkadoulia, E. A., Ioannidou, E. N., Peppas, G., Christodoulou, C., & Rafailidis, P. I. (2007). The effect of psychosocial factors on breast cancer outcome: A systematic review. *Breast Cancer Research, 9*, 1–23. https://doi.org/10.1186/bcr1744

Faller, H., Schuler, M., Richard, M., Heckl, U., Weis, J., & Küffner, R. (2013). Effects of psycho-oncologic interventions on emotional distress and quality of life in adult patients with cancer: systematic review and meta-analysis. *Journal of Clinical Oncology, 31*(6), 782–793. https://doi.org/10.1200/JCO.2011.40.8922

Hinz, A., Krauss, O., Hauss, J., Höckel, M., Kortmann, R., Stolzenburg, J., & Schwarz, R. (2010). Anxiety and depression in cancer patients compared with the general population. *European Journal of Cancer Care, 19*, 522–529. https://doi.org/10.1111/j.1365-2354.2009.01088.x

Huidu, A. (2020). The social responsibility of researchers in combating fake news and conspiracy theories during a pandemic. *Postmodern Openings, 11*(1, S2), pp. 39-48. Disponibil la adresa: https://doi.org/10.18662/po/11.1sup2/138

Kennifer, S. L., Alexander, S. C., Pollak, K. I., Jeffreys, A. S., Olsen, M. K., Rodriguez, K. L., Arnoldf, R. M., & Tulskyabd, J. A. (2009). Negative emotions in cancer care: Do oncologists’ responses depend on severity and type of emotion? *Patient Education and Counseling, 76*, 51–56. https://doi.org/10.1016/j.pec.2008.10.003

Klaassen, Z., Wallis, C. J. D., Goldberg, H., Chandrasekar, T., Sayyid, R. K, Williams, S. B., Moses, K. A., Terris, M. K., Nam, R. K., Urbach, D., Austin, P. C., Kudyak, P., & Kulkarni, G. S. (2019). The impact of psychiatric utilisation prior to cancer diagnosis on survival of solid organ malignancies. *British Journal of Cancer, 120*, 840–847. https://doi.org/10.1038/s41416-019-0390-0

Korfage, I. J., Essink-Bot, M. L., Janssens, A. C. J. W., Schroder, F. H., De Koning, H. J. (2006). Anxiety and depression after prostate cancer
Anxiety and Fear in Cancer Patients
Marius Ionuţ PADURARU, et al.

diagnosis and treatment: 5-year follow-up. British Journal of Cancer, 94, 1093–1098. https://doi.org/10.1038/sj.bjc.6603057

Linden, W., Vodermaier, A., Mackenzie, R., & Greig, D. (2012). Anxiety and depression after cancer diagnosis: prevalence rates by cancer type, gender, and age. Journal of Affective Disorders, 141, 343–351. https://doi.org/10.1016/j.jad.2012.03.025

Lupu, V. V., Ignat, A., Paduraru, G., Mihaila, D., Burlea, M., & Ciubara, A. M. (2015). Heterotopic Gastric Mucosa in the Distal Part of Esophagus in a Teenager Case Report. Medicine, 94(42), e1722. https://doi.org/10.1097/MD.0000000000001722

Maass, S. W., Roorda, C., Berendsen, A. J., Verhaak, P. F., De Bock, G. H. (2015). The prevalence of long-term symptoms of depression and anxiety after breast cancer treatment: a systematic review. Maturitas, 82(1), 100–108. https://doi.org/10.1016/j.maturitas.2015.04.010

Massie, M. L. (2004). Prevalence of depression in patients with cancer. Journal of the National Cancer Institute, 92, 57–71. https://doi.org/10.1093/jncimonographs/lgh014

Mitchell, A. J, Ferguson, D. W., Gill, J., Paul, J., & Symonds, P. (2013). Depression and anxiety in long-term cancer survivors compared with spouses and healthy controls: a systematic review and meta-analysis. The Lancet Oncology, 14(8), 721–732. https://doi.org/10.1016/S1470-2045(13)70244-4

Mols, F., Husson, O., Roukema, J. A., & Van de Poll-Franse, L. V. (2013). Depressive symptoms are a risk factor for all-cause mortality: results from a prospective population-based study among 3,080 cancer survivors from the PROFILES registry. Journal of Cancer Survivorship, 7, 484-492. https://doi.org/10.1007/s11764-013-0286-6

Musuuza, J. S., Sherman, M. E., Knudsen, K. J., Sweeney, H. A., Tyler, C. V., & Koroukian S. M. (2013) Analyzing excess mortality from cancer among individuals with mental illness. Cancer, 119(13), 2469–2476. https://doi.org/10.1002/cncr.28091

Phuong, T. T. (2014). Anxiety in Cancer Patients at K Hospital. Hanoi Medical University.

Pitman, A., Suleman, S., Hyde, N., & Hodgkiss, A. (2018). Depression and anxiety in patients with cancer. BMJ, 361, k1415. https://doi.org/10.1136/bmj.k1415

Rodin, G., Lloyd, N., Katz, M., Green, E., Mackay, J. A., & Wong, R. K. (2007). Supportive care guidelines Group of Cancer Care Ontario Program in evidence-based care: the treatment of depression in cancer patients: a systematic review. Support Care Cancer, 15(2), 123–136. https://doi.org/10.1007/s00520-006-0145-3
Saboonchi, F., Petersson, L.-M., Wennman-Larsen, A., Alexanderson, K., Brannstrom, R., & Vaez, M. (2014). Changes in caseness of anxiety and depression in breast cancer patients during the first year following surgery: patterns of transiency and severity of the distress response. European Journal of Oncology Nursing, 18(6), 598–604. https://doi.org/10.1016/j.ejon.2014.06.007

Simard, S., Thewes, B., Humphris, G., Dixon, M., Hayden, C., Mireskandari, S., & Ozakinci, G. (2013). Fear of cancer recurrence in adult cancer survivors: a systematic review of quantitative studies. Journal of Cancer Survivorship, 7(3), 300–322. https://doi.org/10.1007/s11764-013-0272-z

Smith, H. R. (2015). Depression in cancer patients: pathogenesis, implications and treatment (Review). Oncology Letters, 9, 1509–1514. https://doi.org/10.3892/ol.2015.2944

Thao, T. P., & Dung, T. V. (2016). Study on the anxiety among cancer patients at the center for oncology, Bach Mai hospital. J Pract Med (in Vietnamese), 4, 85–92.

Watts, S., Prescott, P., Mason, J., McLeod, N., & Lewith, G. (2015). Depression and anxiety in ovarian cancer: a systematic review and meta-analysis of prevalence rates. BMJ Open, 5(11), e007618. https://doi.org/10.1136/bmjopen-2015-007618

Watts, S., Leydon, G., Birch, B., Prescott, P., Lai, L., Eardley, S., & Lewith, G. (2014). Depression and anxiety in prostate cancer: a systematic review and meta-analysis of prevalence rates. BMJ Open, 4(3), e003901. https://doi.org/10.1136/bmjopen-2013-003901

Wu, H. S., & Harden, J. K. (2015). Symptom burden and quality of life in survivorship: a review of the literature. Cancer Nursing, 38, E29–54. https://doi.org/10.1097/NCC.0000000000000135