

Assessment of Depression and Anxiety in Colorectal Cancer Patients: Review Article

Esraa Moustafa Abd El Aleem*, Nagy Fawzy Mohamed Selim,
Ahmed Mohamed Abdallah, Shimaa Ibrahim Amin

Department of Psychiatry, Faculty of Medicine, Zagazig University, Egypt

*Corresponding author: Esraa Moustafa Abd El Aleem, Mobile: (+20) 01154402324, E-Mail: noresraa22@gmail.com

ABSTRACT

Background: "A multifactorial unpleasant emotional experience of a psychological (cognitive, behavioral, and emotional), social, and/or spiritual nature that may impede with effective coping with cancer," is how the National Comprehensive Cancer Network (NCCN) describes cancer-related distress.

Objective: Review of literature about Depression and anxiety in colorectal cancer patients.

Methods: We searched PubMed, Google Scholar, and Science Direct for relevant articles on Depression, Anxiety and Colorectal cancer patients. Only the most recent or thorough studies were taken into account between October 2000 and May 2021. The authors also evaluated the value of resources culled from other works in the same genre. Documents written in languages other than English have been ignored due to a lack of translation funds. Unpublished works, oral presentations, conference abstracts, and dissertations were generally agreed upon not to be qualified as scientific research.

Conclusion: A cancer diagnosis or recurrence, the start of a new treatment, or the course of an illness are all examples of times when anxiety is frequent. Resilience breakdown after trauma causes post-traumatic stress disorder. The disorder is characterised by an overwhelming anxiety of reliving the traumatic incident and is frequently accompanied by intrusive memories of the event, such as nightmares or flashbacks. Traumatized individuals frequently report feeling as though the terrible incident were occurring all over again during episodes of involuntary sensory flashbacks and nightmares.

Keywords: Depression, Anxiety, Colorectal Cancer.

INTRODUCTION

According to the NCCN, cancer-related distress is "a multifactorial unpleasant emotional experience of a psychological (cognitive, behavioral, and emotional), social, and/or spiritual origin that may interfere with the ability to cope well with cancer." Adjustment disorders, major depressive disorder, and anxiety disorders are all part of this spectrum. Patients with cancer commonly go undiagnosed, unrecognized, and untreated due to their cancer-related misery. Negative emotions, if left unchecked, can have serious consequences for a person's health and well-being, including a decline in recovery, dissatisfaction, and HrQOL. Anxiety is frequent during stressful times like a cancer diagnosis or recurrence, the start of a new therapy, or the advancement of an existing condition. However, depression in cancer patients can be a typical response, a psychological condition, or a physical side effect of the disease or treatment ⁽¹⁾.

Evidence suggests that a sense of helplessness, fear of death, and a lack of social support all contribute to the onset of these mental health issues ⁽²⁾.

Anxiety, sadness, and post-traumatic stress disorder (PTSD) are all possible outcomes of the stress of this procedure. Patients with stomas, for whatever reason, may experience anxiety and melancholy as they adjust to changes in their body image, sexuality, and the societal and religious stigmas that surround faeces ^(3,4).

Incidence:

Peng et al. ⁽⁵⁾ published a review of 15 papers showing that the percentage of people with CRC who suffer from anxiety and/or depression varies from 1% to 47% and 1.6% to 57% respectively. With more frequent

occurrences among females. Quality of life measures including physical performance, emotional well-being, and cognitive acuity were shown to be lower in males with colorectal cancer than in controls in a Spanish study of people with gastrointestinal cancer ⁽⁴⁾.

Pathogenesis:

The Self-Regulatory Model of Illness

According to this theory, negative emotions like anxiety and despair can build up when people aren't able to control their own emotions. The effects of depression and anxiety on health and wellbeing in the context of cancer have been the subject of extensive study. Anxiety symptoms have been reported in anywhere from 1.0% to 47.2% of patients across studies, and depression symptoms in anywhere from 1.6% to 57.0% of people ⁽⁵⁾.

Depression and anxiety are experienced by people with colorectal cancer at rates roughly 10% greater than those of their physically healthy colleagues ⁽⁶⁾. Despite ongoing suffering, psychological symptoms tend to be at their worst just after a diagnosis is made.

Stoma

Among stoma-using survivors of colorectal cancer therapy. These patients have lower social functioning, inferior body image, and dysfunctional sexuality. Many survivors also deal with chronic bowel trouble, which has been linked to emotional distress ⁽⁷⁾.

Chemotherapy and radiotherapy

The wide variety of toxicities of chemotherapy and radiation therapy that are experienced by patients may contribute to the prevalence of mental illness, or these treatment modalities may serve as surrogates for more

severe or advanced disease. Colorectal cancer patients undergoing chemotherapy may experience cognitive impairments that signal the onset of psychosis ⁽⁸⁾.

Anxiety and sadness have been linked to worse quality of life scores in patients undergoing radiation therapy, which was found to be a predictor of mental disease in earlier time periods ⁽⁹⁾.

Malnutrition

A reduced nutritional status is a common side effect of cancer treatment and is exacerbated by cancer-related symptoms, secondary problems, and antineoplastic drugs ⁽¹⁰⁾.

Cancer patients who are malnourished often experience high levels of psychological discomfort. Patients with malnutrition report increased levels of psychological discomfort, which manifests as more severe fatigue, insomnia, anxiety, and sadness, which in turn contributes to the progression of the condition ⁽¹¹⁾.

Staging

Patients at the end of the disease process seem especially vulnerable to the onset of psychological discomfort. Reduced QOL, noncompliance with treatment, and a worse prognosis have all been linked to increased psychological distress ⁽¹²⁾.

The Perseverative Cognition Hypothesis (PCH) builds from The Self-Regulatory

Disease progression model, in particular, the prolonged physiological activation and increased chance of increased inflammation and accompanying physical symptoms like pain and exhaustion that are frequent among anxious and depressive people's anxiety and rumination ⁽¹³⁾. Cancer patients and those with other chronic illnesses can benefit from the PCH's emphasis on the link between psychological and physical problems, as the latter can be exacerbated or prolonged by the former. Physically healthy people and cancer patients alike frequently experience inflammation, pain, and exhaustion in addition to depressive and anxious symptoms ⁽¹⁴⁾. Depressive and anxious sensations were found to be positively correlated with elevated levels of interleukin-1 beta (IL-1), interleukin-6 (IL-6), and tumour necrosis factor-alpha (TNF-alpha) among patients with colorectal cancer awaiting chemotherapy treatment. Pain and exhaustion are exacerbated by depression in patients with any stage of colorectal cancer. Studies of colorectal patients over time have shown a correlation between their anxiety and depression symptoms and their overall physical status ⁽⁶⁾.

The type, stage, and prognosis of the cancer, as well as other factors connected to therapy, are all likely to have an impact on the onset of despair and anxiety. Some medications used to treat chemotherapy-induced nausea can inhibit dopaminergic transmission, which has been linked to the onset of depressive symptoms, making it possible that immunotherapy and chemotherapy, among other cancer treatments, may

trigger depression through specific biological mechanisms like inflammatory pathways ⁽¹⁵⁾.

Patients' lives can be saved and normalcy can be restored through the creation of stomas. However, the individual may face a number of difficulties in their physical, social, and mental health as a result of this process. Depression, anxiety, body image alterations, low self-esteem, sexual problems, denial, loneliness, hopelessness, and stigma are only some of the mental health issues that people with stomas face. Negative effects on one's social life include withdrawing from friends and family, reducing time spent engaging in hobbies and interests, and avoiding travel. The individual's stoma adaption and stoma management skills may suffer as a result of these issues ⁽¹⁶⁾.

Patients frequently experience iatrogenic discomfort, which may increase their future vulnerability to issues with depression, anxiety, and PTSD. This is generally attributable to a confluence of factors, including inadequate communication, neglect of emotional needs, and inconsistent care. ⁽¹⁷⁾.

PTSD in colorectal cancer

Resilience breakdown after trauma causes post-traumatic stress disorder (PTSD). The disorder is characterised by an overwhelming anxiety of reliving the traumatic incident and is frequently accompanied by intrusive memories of the event, such as nightmares or flashbacks. Traumatized individuals frequently report feeling as though the terrible incident were occurring all over again during episodes of involuntary sensory flashbacks and nightmares ⁽¹⁷⁾.

Heart palpitations, shortness of breath, and the side effects of chemotherapy are all physical manifestations of trauma that can be re-experienced ⁽¹⁸⁾. Some people are so intimidated by cancer that they won't even use the "C" word. Diagnostic tests, stressful waiting periods, the time of terrible news, and burdensome therapies are only some of the many components of a cancer diagnosis and treatment that can behave as traumatic events, leading to cancer-related PTSD ⁽¹⁷⁾. Dread in cancer survivors can be triggered by anything from upcoming scans and oncology appointments to physical symptoms (i.e. pain) or the death of a popular person due to cancer, thus even patients in remission might have elevated anxiety due to fear of recurrence ⁽¹⁹⁾.

Although the similarities between a life-threatening vehicle accident and a cancer diagnosis may not be immediately apparent, both can have a profound impact on a person's outlook on life and the direction they choose to take it. Patients with cancer may feel a loss of control and a shift in perspective after receiving a terminal diagnosis ⁽²⁰⁾. Cancer and cancer therapy can induce reductions in overall functioning, such as poor focus and memory impairment, which can influence regular everyday activities, and this can lead to grief among patients ⁽²¹⁾.

For a person who is used to taking care of himself, becoming "the patient" can be a stressful and upsetting

experience because of the added dependence required of them. Many individuals fear cancer because of the stigma, agony, and eventual death it can bring. A cancer diagnosis can feel devastating, and the treatment process can be fraught with discomfort and unknown outcomes. Cancer has many physical symptoms and anomalies, such as chemotherapy hair loss, nausea, and other physical symptoms, but it can also have a profound emotional impact on the sufferer and their loved ones ⁽²²⁾. Forty percent of cancer patients report severe mental and social suffering while undergoing treatment, about a third of patients will experience some level of distress that calls for expert care ⁽²⁰⁾.

People with PTSD can fall into one of four distinct trajectories: those who experience few or no symptoms, those who experience some distress initially but then recover quickly, those who experience mild symptoms initially but then experience a gradual worsening of their condition, and those who experience persistently severe PTSD symptoms ⁽²³⁾. Few studies have examined the mental health effects of colorectal resections. Colonic resection is a big operation, and all patients who have it run the risk of experiencing problems. Anxiety, sadness, and post-traumatic stress disorder (PTSD) have all been linked to surgical stress. Patients with stomas, for whatever reason, may experience anxiety and melancholy as they adjust to changes in their body image, sexuality, and the societal and religious stigmas that surround faeces ⁽³⁾.

Theoretical Models of PTSD

Memories of non-traumatic experiences can be recalled at will and do not often involve a full-body, sensory re-experience, but traumatic memories are different. Experience-related cues or triggers are often avoided by patients with PTSD in order to prevent the uncomfortable re-experiencing of the trauma. The physiological response to trauma involves the brain going into sympathetic overdrive, with the amygdala becoming hyper-aroused and the prefrontal salience network losing its ability to assess cues for danger and thought control, so that even non-threatening cues, especially those associated with the trauma, are interpreted as dangerous. Insomnia, irritability, heightened tension, and startle, and even violent or reckless behaviour are common side effects of being in a state of terrified hyper-arousal all the time ⁽²⁴⁾.

Cognitive dissonance brought on by cancer can contribute to PTSD symptoms but also serve as the impetus for prolonged thought and reflection ⁽¹⁷⁾. Positive and negative psychological effects have both been attributed to the cancer experience, which has been characterized as a psychosocial transformation ⁽²⁵⁾. In order to conceptualise these psychological effects, cognitive processing is essential. Cognitive dissonance between the traumatic facts of the experience and one's existing meaning systems is proposed as a cause of post-traumatic stress disorder (PTSD) ⁽²⁶⁾, where post-traumatic growth (PTG) postulates that significant and

lasting growth and change can result from a trauma survivor's reflective, positive, and deliberate cognitive processing of the trauma in an attempt to make sense of the event ⁽²⁶⁾.

Given the significance of cognitive processes in post-traumatic adjustment, a scale was devised to evaluate both positive (downward comparison, cognitive restructuring, and resolution) and negative (denial, and regrets) ways of thinking about and dealing with trauma. Negative cognitive processing has been shown to predict PTSD symptoms using this measure, while positive cognitive processing is related with less distress and more development, as predicted by these theoretical models ⁽²⁷⁾.

In addition, cognitive models of PTSD explain how variations in particular cognitive styles affect the flexibility with which mental processes are able to react to new circumstances. In particular, cognitive styles are thought to affect the resilience with which people respond to adversity by employing either positive or negative modes of thought processing. These theoretical models suggest that positive and negative habitual attentional styles (valence of cognitive style) may serve as intermediaries between traumatic brain injury and psychological consequence (positive, and negative) ⁽²⁸⁾.

Identity, problem-solving, and social bonding all depend on one's ability to recall precise, detailed memories from one's personal past (i.e., recollections of events that occurred at a certain time and place). Recalling specific autobiographical experiences is an important habit for maintaining mental health after a traumatic event, and difficulties in doing so are linked to post-traumatic stress disorder (PTSD) symptoms. Implications for cognitive processing function become significant when individuals are unable to provide detailed accounts of their own lives. Remembering one's own life experiences is fundamental for coping with a traumatic situation like cancer. This can make it hard to build the kind of meaningful life story that's necessary for successful adaptation, and it can cause emotional suffering ⁽²⁹⁾.

A person's self-perception, social life, spiritual life, professional life, and other facets of daily functioning are all impacted by post-traumatic stress disorder (PTSD). Patients' connections with loved ones can be strained because of the patient's unstable emotional state, which can lead them to doubt their spirituality, personal values, and the reason of their existence. Returning to work after cancer treatment can be stressful for patients because they may feel isolated from their friends and family and less connected to their social circle ⁽²¹⁾.

CONCLUSION

A cancer diagnosis or recurrence, the start of a new treatment, or the course of an illness are all examples of times when anxiety is frequent. Resilience breakdown after trauma causes post-traumatic stress disorder. The

disorder is characterised by an overwhelming anxiety of reliving the traumatic incident and is frequently accompanied by intrusive memories of the event, such as nightmares or flashbacks. Traumatized individuals frequently report feeling as though the terrible incident were occurring all over again during episodes of involuntary sensory flashbacks and nightmares.

Sponsoring financially: Nil.

Competing interests: Nil.

REFERENCES

1. **Smith S, Loscalzo M, Mayer C et al. (2018):** Best Practices in Oncology Distress Management: Beyond the Screen. *Am Soc Clin Oncol Educ Book*, 38: 813–821.
2. **Brewin C, Andrews B, Valentine J (2000):** Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *J Consult Clin Psychol.*, 68: 748–66.
3. **Ang S, Chen H, Siah R et al. (2013):** Stressors relating to patient psychological health following stoma surgery: an integrated literature review. *Oncol Nurs Forum.*, 40: 587–94.
4. **Sánchez R, Alexander-Sierra F, Oliveros R (2012):** Relationship between quality of life and clinical status in patients with gastrointestinal cancer. *Rev Esp Enferm Dig.*, 104: 584-591.
5. **Peng Y, Huang M, Kao C (2019):** Prevalence of Depression and Anxiety in Colorectal Cancer Patients: A Literature Review. *Int J Environ Res Public Health*, 16: 411-15.
6. **Mols F, Schoormans D, de Hingh I et al. (2018):** Symptoms of anxiety and depression among colorectal cancer survivors from the population-based, longitudinal PROFILES registry: prevalence, predictors and impact on quality of life. *Cancer*, 124 (12): 2621–2628.
7. **Alavi M, Wendel C, Krouse R et al. (2017):** Predictors of Bowel Function in Long-term Rectal Cancer Survivors with Anastomosis. *Ann Surg Oncol.*, 24 (12): 3596–3603.
8. **Hodgson K, Hutchinson A, Wilson C et al. (2013):** A meta-analysis of the effects of chemotherapy on cognition in patients with cancer. *Cancer Treat Rev.*, 39 (3): 297–304.
9. **Frick E, Tyroller M, Panzer M (2007):** Anxiety, depression and quality of life of cancer patients undergoing radiation therapy: a cross-sectional study in a community hospital outpatient centre. *Eur J Cancer Care*, 16 (2): 130–6.
10. **Muscaritoli M, Arends J, Bachmann P et al. (2021):** ESPEN Guideline ESPEN practical guideline: clinical nutrition in cancer. *Clin Nutr.*, 40: 2898–2913.
11. **Holland J, Alici Y (2010):** Management of distress in cancer patients. *J Support Oncol.*, 8: 4–12.
12. **Diaz-Frutos D, Baca-Garcia E, García-Foncillas J et al. (2016):** Predictors of psychological distress in advanced cancer patients under palliative treatments. *Eur J Cancer Care*, 25 (4):608-15.
13. **Brosschot J, Gerin W, Thayer J (2006):** The perseverative cognition hypothesis: a review of worry, prolonged stress-related physiological activation, and health. *J Psychosom Res.*, 60 (2): 113-124.
14. **Renna M, O'toole M, Spaeth P et al. (2018):** The association between anxiety, traumatic stress, and obsessive-compulsive disorders and chronic inflammation: a systematic review and meta-analysis. *Depress Anxiety*, 35 (11): 1081-1094.
15. **Smith H (2015):** Depression in cancer patients: Pathogenesis, implications and treatment (Review). *Oncol Lett.*, 9: 1509-13.
16. **Ayaz S (2009):** Approach to sexual problems of patients with stoma by PLISSIT Model: An Alternative. *Sex Disabil.*, 27: 81-71.
17. **Cordova M, Riba M, Spiegel D (2017):** Posttraumatic stress disorder and cancer. *Lancet Psychiatry*, 4: 330–338.
18. **Vahia V (2013):** Diagnostic and statistical manual of mental disorders 5: A quick glance. *Indian J Psychiatry*, 55 (3): 220–223.
19. **Ghazali N, Cadwallader E, Lowe D et al. (2013):** Fear of recurrence among head and neck cancer survivors: Longitudinal trends. *Psycho-Oncology*, 22: 807–81.
20. **Grassi L, Spiegel D, Riba M (2017):** Advancing psychosocial care in cancer patients. *F1000Research*, 6: 2083. doi: 10.12688/f1000research.11902.1
21. **Caruso R, Nanni M, Riba M et al. (2017):** The burden of psychosocial morbidity related to cancer: Patient and family issues. *Int Rev Psychiatry*, 29 (5): 389–402.
22. **Pranjic N, Bajraktarevic A, Ramic E (2016):** Distress and PTSD in patients with cancer: Cohort study case. *Materia Socio-medica*, 28 (1): 12-16.
23. **Bryant R (2019):** Post-traumatic stress disorder: a state-of-the-art review of evidence and challenges. *World Psychiatry*, 18: 259–69.
24. **Ellis J, Zaretsky A (2018):** Assessment and Management of Posttraumatic Stress Disorder. *Continuum: Lifelong Learning in Neurology. Behavioral Neurology and Psychiatry*, 24 (3): 873–892.
25. **Manne S, Ostroff J, Winkel G et al. (2004):** Posttraumatic growth after breast cancer: Patient, partner, and couple perspectives. *Psychosomatic Medicine*, 66: 442–454.
26. **Currier J, Lisman R, Harris J et al. (2013):** Cognitive processing of trauma and attitudes toward disclosure in the first six months after military deployment. *Journal of Clinical Psychology*, 69: 209–221.
27. **Gangstad B, Norman P, Barton J (2009):** Cognitive processing and posttraumatic growth after stroke. *Rehabilitation Psychology*, 54 (1): 69–75.
28. **Chan M, Ho S, Tedeschi R et al. (2011):** The valence of attentional bias and cancer-related rumination in posttraumatic stress and posttraumatic growth among women with breast cancer. *Psycho-Oncology*, 20: 544–52.
29. **Sansom-Daly U, Wakefield C, Roberston E et al. (2018):** Adolescent and young adult cancer survivors' memory and future thinking processes place them at risk for poor mental health. *Psycho-Oncology*, 27: 2709–2716.