

Psychological complications of chemotherapy and management among cancer patients: A review for physician education in Nigeria

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ABSTRACT

Chemotherapy is associated with several psychological complications in cancer patients. These complications are underestimated by most physicians in the cancer space especially in low and middle-income countries which can be attributed to either lack of awareness or knowledge base and this have a deleterious effect on the management. This complication ranges from anxiety, depression, cognitive impairment, fatigue and sleep disturbance, post-traumatic stress disorder, to social isolation. The effect of this complication cannot be underscored among cancer patients. Therefore, management strategies for this complication such as psychotherapy, pharmacological intervention, support group, sleep hygiene, family and caregiver support, spiritual/religious support, cognitive rehabilitation/training, art and creative activity are sacrosanct for quality management. Hence psychological complications constitute significant and often underappreciated aspect of the cancer treatment experience, particularly for those undergoing chemotherapy. Early identification, assessment and intervention are pivotal in addressing these complications through a combination of psychological support, pharmacotherapy and integrative care approaches are essential for improving patient outcomes. Future research should continue to explore the mechanisms underlying these psychological effects and develop policy or algorithm and targeted interventions to mitigate their impact.

Keywords: psychology, chemotherapy, cancer

INTRODUCTION

Chemotherapy remains a cornerstone in cancer management despite the evolution in cancer treatment. However, the psychiatric consequence of chemotherapy among cancer patients still remains underscore and this have an adverse effect on the outcome of management and quality of life. This can be attributed to adherence issues due to psychological effect of chemotherapy. A cancer diagnosis can have a wide-ranging impact on mental health and the prevalence of psychiatric disorder among cancer patients is high [1, 2]. The psychological complications of chemotherapy can be as debilitating as the physical side effects, yet they are often underrecognized and undertreated [2]. Klaassen et al. has shown that psychiatric effect is worsen among those with previous or pre-existing psychiatric disorders and at greater risk of mortality following a cancer diagnosis and treatment with chemotherapy [3]. However, physician in the cancer space pay little or no attention to the mental health needs of people with cancer, with or without a prior psychiatric history, during and after cancer treatment, which is primarily focused on monitoring physical health symptoms and side effects. Chemotherapy causes spectrum of psychiatric side effect, among cancer patients. This ranges from anxiety, depression, cognitive impairment, mood swings, sleep disturbance, post-traumatic stress disorder, delirium and psychosis episode. These complications may vary depending on cancer type, chemotherapy regimen and patient factor [3].

The psychological complications of chemotherapy can be as debilitating as the physical side effects, yet they are often under recognized and undertreated. Understanding these psychological challenges is crucial for providing comprehensive care to cancer patients.

LITERATURE REVIEW

Anxiety

Anxiety is one of the most common psychological complications among cancer patients undergoing chemotherapy. The uncertainty surrounding treatment outcomes, fear of side effects, and the stress of frequent medical procedures contribute to heightened anxiety levels. Studies have shown that up to 50% of cancer patients experience significant anxiety during chemotherapy [4].

Contributing factors

Pre-treatment anxiety:

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Fear of the unknown, concerns about the efficacy of chemotherapy, and potential side effects often lead to pre-treatment anxiety [4].

Treatment-related anxiety:

The physical discomfort and the impact of chemotherapy on daily life contribute to ongoing anxiety during treatment [4].

Management strategies

Psychological interventions:

Cognitive-Behavioral Therapy (CBT) has been effective in reducing anxiety by helping patients manage negative thoughts and develop coping strategies [4].

Pharmacological treatment:

Anti-anxiety medications may be prescribed for patients with severe symptoms, often in conjunction with psychological therapy [4].

Depression

Depression is another prevalent psychological complication in cancer patients undergoing chemotherapy, with a reported incidence ranging from 15% to 25%. Depression can be triggered by the physical toll of chemotherapy, changes in body image, and the emotional burden of a cancer diagnosis [5].

Mechanisms and contributing factors

Biological factors:

Chemotherapy-induced changes in neurotransmitter levels may contribute to the development of depression [1, 5].

Psychosocial factors:

The loss of normalcy, social isolation, and changes in family dynamics due to illness can exacerbate depressive symptoms [5].

Impact on quality of life

Depression significantly impacts patients' quality of life, affecting their ability to participate in daily activities, maintain relationships, and adhere to treatment regimens [5].

Treatment approaches

Psychotherapy:

Approaches such as CBT and Interpersonal Therapy (IPT) have shown efficacy in treating depression in cancer patients [5].

Pharmacotherapy:

Antidepressants are commonly used to manage symptoms, often in combination with counseling [5].

Cognitive impairments (Chemobrain)

"Chemobrain" refers to the cognitive impairments that many patients experience during and after chemotherapy, affecting memory, attention, and executive functioning. These impairments can persist long after treatment ends, significantly impacting daily functioning and quality of life [6, 7].

Prevalence and characteristics

Cognitive impairments are reported by approximately 20% to 30% of patients undergoing chemotherapy, with symptoms varying from mild to severe [7].

Mechanisms

The exact mechanisms underlying chemobrain are not fully understood, but hypotheses include direct neurotoxic effects of chemotherapy, inflammation, and oxidative stress [7].

Coping strategies

Cognitive rehabilitation:

Programs designed to improve cognitive function through targeted exercises and compensatory strategies [7].

Lifestyle modifications:

Encouraging physical activity, mental exercises and a healthy diet to support cognitive health [7].

Body image disturbance

Chemotherapy often leads to visible changes such as hair loss, weight fluctuations, and skin alterations, which can profoundly affect a patient's body image and self-esteem. These changes can lead to social withdrawal, anxiety, and depression [8].

Psychological impact

The impact of body image disturbances extends beyond physical appearance, influencing patients' sense of identity and self-worth [8].

Management

Psychological support:

Counseling can help patients adjust to changes in appearance and develop a positive self-image [8, 9].

Cosmetic interventions:

Wigs, makeup, and other cosmetic solutions can help patients manage changes in appearance and maintain confidence [9].

Sleep disorders and fatigue

Chemotherapy-induced fatigue is one of the most common side effects, often leading to sleep disturbances. The relationship between sleep disorders and psychological health is bidirectional; poor sleep exacerbates psychological distress, which in turn worsens sleep quality [9, 10].

Prevalence and impact

Insomnia and other sleep disorders affect a significant proportion of cancer patients undergoing chemotherapy, contributing to a cycle of fatigue, depression, and anxiety [10].

Management

Behavioral interventions:

Cognitive-Behavioral Therapy for Insomnia (CBT-I) is an effective treatment for sleep disorders in cancer patients [10].

Pharmacological interventions:

Sleep aids may be prescribed in some cases, though non-pharmacological approaches are preferred to avoid dependence [10].

Social isolation and relationship strain

The physical and emotional toll of chemotherapy often leads to social isolation, either due to patients' withdrawal or because

of a lack of understanding from others. Relationship dynamics may also be strained, particularly with close family members and caregivers [10, 11].

Social consequences

Isolation can exacerbate feelings of depression and anxiety, reducing the availability of crucial social support networks [11].

Support strategies

Support groups:

Participation in support groups can help reduce feelings of isolation by connecting patients with others who share similar experiences [10, 11].

Family counseling:

Counseling sessions that include family members can improve communication and help manage the relational impact of chemotherapy [11].

Post-Traumatic Stress Disorder (PTSD) and fear of recurrence

Cancer patients, particularly those undergoing intensive treatments like chemotherapy, are at risk of developing PTSD. Additionally, many patients live with a persistent fear of cancer recurrence, which can severely impact their mental health [11].

PTSD symptoms

Symptoms may include flashbacks, hypervigilance, and avoidance behaviors, all of which interfere with daily functioning [11].

Management of PTSD and fear of recurrence

Trauma-focused therapies:

Techniques such as Eye Movement Desensitization and Reprocessing (EMDR) and exposure therapy can be effective in

treating PTSD [11].

Ongoing psychological support:

Continuous counseling and support can help manage the fear of recurrence, promoting long-term mental health [11].

Integrative approaches to psychological care

Given the complex interplay between physical and psychological health in cancer patients, integrative approaches that address both aspects are essential. Multidisciplinary teams, including oncologists, psychologists, and social workers, are crucial in providing comprehensive care [11].

Holistic care models

Mind-body therapies:

Interventions such as mindfulness, yoga, and acupuncture can complement conventional treatments and alleviate psychological distress [11].

Palliative care integration:

Integrating palliative care early in the treatment process can help address both physical and psychological needs, improving overall quality of life [11].

CONCLUSION

Psychological complications are a significant and often underappreciated aspect of the cancer treatment experience, particularly for those undergoing chemotherapy. Addressing these complications through a combination of psychological support, pharmacotherapy, and integrative care approaches is essential for improving patient outcomes. Future research should continue to explore the mechanisms underlying these psychological effects and develop policy or algorithm and targeted interventions to mitigate their impact.

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