

# Challenges and Complexities in Managing the Comorbidity of Cancer and Schizophrenia: A Comprehensive Review

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## ABSTRACT

The coexistence of cancer and schizophrenia presents significant challenges due to the complex interplay between physical and mental health. While cancer is a relatively common disease, schizophrenia affects only 1% of the population. This review explores the multifaceted issues faced by individuals with both conditions, highlighting six main areas: risk factors for those with schizophrenia, stigma and treatment lapses, barriers arising from schizophrenia, medication interactions, exacerbation of symptoms from chemotherapy and antipsychotic medications, and the potential impact of antipsychotics on cancer progression.

Schizophrenia's inherent risk factors, such as obesity and smoking, increase the likelihood of developing cancer. Additionally, stigma and misdiagnosis contribute to inadequate cancer treatment for patients with schizophrenia. The interactions between chemotherapy and psychotropic drugs pose significant risks, complicating treatment protocols. Moreover, cognitive impairments and the potential for chemotherapy-induced psychosis further exacerbate the challenges. This review underscores the need for more research to understand medication interactions, improve diagnostic accuracy, and develop holistic treatment approaches. Enhanced doctor-patient relationships, reduced stigma, and comprehensive support systems are essential for improving outcomes for this vulnerable population.

(Keywords: *cancer, schizophrenia, comorbidity, oncology, psychotropic medications, chemotherapy, medication interactions, stigma in healthcare, risk factors, treatment barriers*)

## INTRODUCTION

Cancer can be fatal for many, but while cancer is relatively common, schizophrenia affects only 1% of the population (Kaneshiro, *et al.*, 2022). The comorbidity of cancer and schizophrenia presents unique challenges and hardships.

Navigating both a physical and a mental illness is complex. Additionally, because cancer patients with schizophrenia are less common than those without schizophrenia, this smaller population may not receive as much attention.

This review covers the challenges and struggles faced by individuals with both schizophrenia and cancer. It will address six main areas: risk factors for individuals with schizophrenia, stigma and lapses in treatment, barriers caused by the nature of schizophrenia, medication interactions, worsening symptoms due to chemotherapy and antipsychotic medications, and the potential for antipsychotics to worsen cancer.

## MATERIALS AND METHODS

This review synthesizes existing literature on the comorbidity of cancer and schizophrenia. We conducted a comprehensive search of electronic databases, including PubMed, Google Scholar, and PsycINFO, using keywords such as "Cancer," "Schizophrenia," "Comorbidity," "Oncology," "Psychotropic Medications," "Chemotherapy," "Medication Interactions," "Stigma in Healthcare," "Risk Factors," and "Treatment Barriers."

Relevant studies published between 2010 and 2023 were included. The selected articles were analyzed to identify common themes and key findings related to the challenges and

complexities in managing patients with both cancer and schizophrenia. Emphasis was placed on studies that addressed treatment barriers, medication interactions, and the effects of chemotherapy on psychiatric symptoms. The review aims to provide a holistic understanding of the unique difficulties faced by this patient population and suggest areas for future research and clinical practice improvements.

## RESULTS

### **Risk Factors for Individuals with Schizophrenia**

The nature of schizophrenia is such that obesity from mental health medications that cause weight gain, as well as a lack of self-care (a negative symptom of schizophrenia), results in weight gain (Irwin, *et al.*, 2013). Since obesity is a risk factor for people with schizophrenia, it also increases the chances of cancer and breast cancer (Breast Cancer.Org). Also, many individuals with schizophrenia self-medicate for their mental distress by smoking (Kirknova, *et al.*, 2023). This habit increases the risk of lung cancer (Seeman, 2020). Thus, individuals with schizophrenia have a high risk of these two cancers due to lifestyle factors.

### **Stigma and Treatment Lapses**

Many doctors ignore symptoms of cancer or physical illness in patients with schizophrenia because they attribute the physical symptoms to schizophrenia (Irwin, *et al.*, 2013). Additionally, there is a stigma among health practitioners, who may find treating patients with schizophrenia challenging due to the nature of the illness (Irwin, *et al.*, 2013). Individuals with schizophrenia are less likely to receive treatment for cancer due to misdiagnosis and stigma (Irwin, *et al.*, 2013).

### **Barriers Arising from Schizophrenia**

It is not just health professionals' discrimination but also the reluctance of many schizophrenic patients who are afraid of doctors and refuse treatments as part of their illness (Hwang, *et al.*, 2012). Depression and suicidality associated with schizophrenia also contribute to the lack of willingness to undergo treatment (Hwang, *et al.*, 2012). Noncompliance with medication is another

significant issue, as individuals with schizophrenia may not complete their treatment rounds due to medical noncompliance (Hwang, *et al.*, 2012).

### **Medication Interactions**

There are significant interactions between chemotherapy and psychotropic drugs (Turossi-Amorin, *et al.*, 2022). According to Turossi-Amorin, *et al.* (2022), several interactions between mental health medications and chemotherapy treatments were identified. Out of 74 evaluated cancer patients, 24 significant interactions between psychotropic drugs, and chemotherapy were found. Of these, 54.2% involved SSRIs and 16.7% involved antipsychotics. Additionally, 4% of hospitalized cancer patients die from drug-drug interactions, highlighting the severe complications that can arise.

### **Exacerbation of Symptoms from Chemotherapy and Antipsychotic Medications**

Schizophrenia causes cognitive symptoms such as memory loss and negative symptoms like low motivation and depression (WebMD). Chemotherapy can exacerbate these issues, leading to "chemo brain," characterized by memory lapses, confusion, and disorganization (Mayo Clinic). This overlap can worsen the disorganization and cognitive impairments in individuals with schizophrenia.

### **Potential Impact of Antipsychotics on Cancer Progression**

The effect of chemotherapy on the positive symptoms of schizophrenia requires further research. It is challenging to distinguish whether schizophrenia or chemotherapy causes psychosis. For example, a case study of a woman with no mental health history developed psychosis after chemotherapy, which was concluded to be chemotherapy-induced (Alesheri, *et al.*, 2022).

Another case study involved an individual with autism who developed hallucinations and delusions after chemotherapy, which was likely a combination of predisposition and chemotherapy

reaction (Hodges, *et al.*, 2024). Hormones used in cancer treatment, such as prednisone, can also cause psychosis in susceptible individuals (Popkin and Peterson, 2020).

## **DISCUSSION**

Managing the comorbidity of cancer and schizophrenia is a multifaceted challenge that requires a comprehensive understanding of the intricate interactions between these two conditions. This discussion section delves deeper into the unique aspects of this comorbidity and highlights potential strategies for improving patient outcomes.

### **Diagnostic Challenges and Misdiagnosis**

One of the primary issues in managing cancer in patients with schizophrenia is the high likelihood of misdiagnosis. Schizophrenia is characterized by symptoms such as delusions, hallucinations, and cognitive impairments, which can overshadow the early signs of cancer. This often leads to delays in cancer diagnosis and treatment.

Additionally, the somatic complaints of schizophrenic patients are frequently dismissed as psychosomatic, resulting in inadequate diagnostic evaluations. To address this, healthcare providers must adopt a more vigilant approach to symptom assessment in schizophrenic patients, ensuring that physical complaints are thoroughly investigated.

### **Treatment Adherence and Compliance**

Noncompliance with treatment regimens is a significant barrier in managing comorbid cancer and schizophrenia. Schizophrenia patients often struggle with medication adherence due to cognitive impairments, paranoia, and negative symptoms such as lack of motivation. This noncompliance can lead to incomplete cancer treatment cycles, reducing the efficacy of therapy. Interventions such as the use of long-acting injectable antipsychotics, tailored communication strategies to enhance understanding, and the involvement of mental health professionals in the oncology care team can improve treatment adherence.

### **Stigma and Discrimination**

Stigma associated with mental illness, particularly schizophrenia, can adversely affect the quality of cancer care received by these patients. Healthcare providers may harbor biases, consciously or unconsciously, that lead to suboptimal treatment recommendations. Moreover, schizophrenic patients might face discrimination within healthcare settings, further deterring them from seeking timely medical help. It is crucial to implement training programs for healthcare professionals to address stigma and promote empathy and understanding towards patients with schizophrenia.

### **Medication Interactions**

The pharmacological management of schizophrenia often involves antipsychotic medications that can interact with chemotherapeutic agents, leading to adverse effects or reduced efficacy of treatment. For instance, antipsychotics can alter the metabolism of chemotherapeutic drugs through enzyme inhibition or induction. Comprehensive drug interaction studies are necessary to inform safer prescribing practices. Additionally, routine monitoring of drug levels and patient symptoms can help manage these interactions effectively.

### **Symptom Management**

Chemotherapy can exacerbate the cognitive and psychological symptoms of schizophrenia. "Chemo brain," characterized by memory lapses and cognitive dysfunction, can overlap with the cognitive deficits already present in schizophrenic patients, complicating their management. Antipsychotic medications, while essential for managing schizophrenia, can also contribute to cognitive dulling and metabolic issues. Balancing the benefits and side effects of these medications requires a nuanced approach, possibly involving dose adjustments and supportive therapies such as cognitive rehabilitation.

### **Psychosocial Support and Multidisciplinary Care**

The dual burden of cancer and schizophrenia necessitates robust psychosocial support systems. Multidisciplinary care teams comprising

oncologists, psychiatrists, psychologists, social workers, and nurses are essential for providing holistic care. These teams can address the diverse needs of patients, from managing physical symptoms and medication side effects to offering psychological support and addressing social determinants of health. Psychosocial interventions, including counseling, support groups, and family therapy, can also play a pivotal role in improving patient outcomes and quality of life.

### **Research and Future Directions**

There is a critical need for more research focused on the comorbidity of cancer and schizophrenia. Studies investigating the biological mechanisms underlying the increased cancer risk in schizophrenic patients, the impact of antipsychotic medications on cancer progression, and effective strategies for managing drug interactions are vital. Additionally, research should explore the development of tailored cancer screening protocols and treatment guidelines for this population.

### **Policy Implications**

Healthcare policies must recognize the unique challenges faced by individuals with comorbid cancer and schizophrenia. Policies that promote integrated care models, ensure equitable access to healthcare services, and provide funding for specialized research are essential. Advocacy efforts should also focus on reducing stigma and improving mental health literacy among healthcare providers and the general public.

### **CONCLUSIONS**

The intersection of cancer and schizophrenia presents significant challenges that require a concerted effort from healthcare providers, researchers, policymakers, and society at large. By enhancing diagnostic accuracy, improving treatment adherence, addressing stigma, managing medication interactions, and providing comprehensive psychosocial support, we can improve the health outcomes and quality of life for individuals grappling with these dual diagnoses.

Future research and policy initiatives must continue to focus on this vulnerable population,

ensuring that they receive the care and support they need to navigate their complex health journey effectively.

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### **Conflict of interest**

The author(s) declare no conflict of interest.

### **Data Availability Statement**

Data supporting these findings are available within the article or upon request.

### **Institutional Review Board Statement and Informed Consent Statement**

Not applicable.

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