

# An examination of the psychological well-being of patients undergoing oncological treatments

**Yuan Ou**

Shanghai Shangde Experimental School, Shanghai, 200120, China

2565352448@qq.com

**Abstract.** Cancer remains one of the critical diseases severely impacting the quality of life globally. Patients typically endure both physical and psychological challenges upon diagnosis. They are often faced with the decision of whether to accept the oncological treatment plans proposed by their physicians. The potential psychological changes in patients post-treatment pose a new challenge. This study aims to analyze the impact of various cancer treatment modalities on patients' mental health, providing a comprehensive analysis. Utilizing comparative and summary methods, this paper evaluates the impact of different treatment approaches on the psychological state of patients. Patients with cancer commonly experience negative emotions prior to receiving treatment, leading to persistent states of anxiety and depression post-treatment. Proactive psychological interventions are recommended for implementation both before and after cancer treatment. These interventions can effectively alleviate the psychological distress and anxiety experienced by patients.

**Keywords:** Oncotherapy, Psychological state, Cancer, Anxiety

## 1. Introduction

Cancer is among the leading causes of morbidity and mortality worldwide. Among the current mainstream treatment options, only early-stage tumors are potentially curable through surgical resection. Other modalities, unfortunately, do not offer a definitive cure. Consequently, many patients, fearing the pain associated with treatment, opt to forgo therapy after diagnosis. Current research reveals a range of adverse reactions in cancer patients following various treatment regimens. However, there is a notable gap in literature regarding the psychological impact of different cancer treatments. This article provides a comprehensive overview of the psychological health impacts associated with surgical, chemotherapeutic, radiotherapeutic, and biological treatments in cancer patients. It identifies and summarizes the causative factors of these impacts. Furthermore, it analyzes the necessity for psychological intervention post-treatment, especially for patients with pre-existing mental health conditions. This enables a more holistic consideration of treatment options by patients, particularly in the context of physician-recommended cancer therapies, post-diagnosis.

## 2. Overview of Mainstream Cancer Treatment Strategies

### 2.1. *Surgical Treatment: Methods and Characteristics*

Treatment of tumors in surgery is categorized into two primary approaches: surgical operations and interventional therapy. Within surgical operations, there are several distinct types of surgeries, each with unique functions and characteristics. Prophylactic surgery is employed for pre-cancerous conditions; curative surgery is applicable for tumors in various organs where complete removal is feasible; diagnostic surgery involves excisions or biopsies and exploratory laparotomies; radical surgery extends to the removal of regional lymph nodes and adjacent organs; and palliative surgery aims to alleviate symptoms. Additionally, there are other surgeries included under the umbrella of tumor operations. All the aforementioned surgeries are categorized as either elective or emergency procedures. Interventional therapy, accurately described as a treatment modality that bridges the gap between surgery and internal medicine, is characterized by its non-invasive approach. It involves treating the localized lesion through minimal incisions in the skin or blood vessels or via natural body passages, guided by imaging devices. This method represents the least invasive option in localized treatments. The predominant techniques in interventional therapy are intravascular and extravascular interventions, with stenting and embolization as the main treatment methods. This approach is particularly effective in treating liver cancer, lung cancer, and aneurysms.

### 2.2. *Methods and Characteristics of Chemotherapy*

Chemotherapy is a systemic treatment that employs chemical agents to limit cancer cell multiplication, infiltration, and metastasis, with the ultimate goal of eradicating them. This medication is typically provided via oral consumption, intramuscular, intracavitary, arterial, and intravenous injections. Curative chemotherapy tries to destroy all tumor cells, perhaps curing the patient. It is commonly used in the treatment of testicular cancer, Hodgkin's lymphoma, and non-Hodgkin's lymphoma. Palliative chemotherapy, on the other hand, is used to relieve symptoms and extend survival in advanced-stage tumors such as breast cancer, stomach cancer, esophageal cancer, and pancreatic cancer, but it does not provide a complete cure. Tissue reactions due to local drug leakage, thrombophlebitis, allergic reactions, fever, anemia, nausea, vomiting, and diarrhea are all common side effects of chemotherapy.

### 2.3. *Methods and Characteristics of Radiotherapy*

Radiotherapy is a cancer treatment modality that uses radiation from radioactive isotopes to generate alpha, beta, gamma, and other forms of X-rays from treatment devices and accelerators such as electron beams and proton beams. This targeted therapy works by disrupting single or double strands of tumor DNA, inhibiting cell replication and ultimately leading to cell death, extending patient lives and relieving pain. Based on its goals, radiotherapy can be classified as curative, adjuvant, or palliative. Curative radiation can potentially cure cancer and is appropriate for early-stage malignancies. Adjuvant radiotherapy aims to reduce recurrence, preserve organs, and extend survival, but it cannot completely cure cancer at this stage. Palliative radiotherapy is used in complex and critical cases to ease pain, prolong life, and improve the quality of life for patients. Approximately 70% of cancers, such as pancreatic, rectal, prostate, kidney, and lung cancers, require radiotherapy. Post-radiotherapy, patients often experience adverse effects like headaches, dizziness, hair loss, and moist dermatitis.

### 2.4. *Methods and Characteristics of Biological Therapy*

Biological therapy represents an emerging approach in cancer treatment in recent years, known for effectively extending survival periods and improving survival rates [1]. This therapy is primarily divided into three major categories: immunotherapy, gene therapy, and targeted therapy. Immunotherapy leverages the body's immune mechanism, enhancing the immune function of tumor patients through active or passive means to achieve the goal of destroying tumor cells. Gene therapy involves using genetic material to replicate or correct anomalies in the structure and function of genes or foreign pathogen genetic material, offering a method to cure patients. Targeted therapy acts on molecules that

influence vital processes like the growth, division, and metastasis of tumor cells, allowing direct targeting of tumor cells without affecting normal cells. This treatment approach is applicable to cancers such as ovarian cancer and colorectal cancer.

### **3. The Psychological Impact of Undergoing Cancer Treatment on Patients**

Upon receiving a cancer diagnosis, the foremost concern for patients often revolves around whether to accept the treatment plan proposed by their physician. Factors such as when to start treatment, the method of treatment, potential adverse reactions, and the financial burden on the family can cause considerable hesitation and reluctance among patients when deciding whether to undergo treatment. Even when a patient decides to proceed with treatment, it does not necessarily mean they will experience a more positive psychological impact. Therefore, the author has summarized the psychological state changes in patients who have and have not undergone treatment after diagnosis, as well as the psychological effects of different cancer treatments, based on existing literature.

#### *3.1. Comparative Psychological States of Patients Undergoing Cancer Treatment Versus Those Who Do Not*

Patients undergoing cancer treatment, in the absence of psychological intervention, often experience anxiety, tension, and depression. Statistics show that over 30% of cancer patients experience adverse effects on their health due to fear of the disease. This is largely because many diagnosed patients lack a clear understanding of cancer and its treatment, leading to excessive worry and a pessimistic outlook after diagnosis [2]. However, some diagnosed patients, fearing the pain associated with treatment, choose to forgo it and spend their remaining time as comfortably as possible. Initially, patients who voluntarily cease treatment may feel a reduction in psychological burden due to avoiding financial strain on the family and the pain of treatment. However, these patients often face rapid disease progression due to lack of treatment. As the condition worsens, they typically experience severe pain and inability to care for themselves, leading to heightened needs for cleanliness and pain relief [3]. Consequently, it can be inferred that patients who do not receive cancer treatment also undergo significant psychological stress due to physical changes and the stark contrast in their condition.

#### *3.2. Comparative Psychological States of Patients Undergoing Different Cancer Treatments*

Research indicates that in surgical treatment, many patients experience mild to moderate anxiety and depression, such as palpitations, excessive sweating, and fear, both before and after surgery due to a lack of understanding of the tumor surgery. As the severity of the condition increases and the scope of treatment expands, patients' negative emotions tend to intensify [4]. Secondly, in patients undergoing chemotherapy, adverse reactions caused by medication can exacerbate the tumor condition. This interaction often leads to negative emotions and psychological disorders in patients [5]. Similarly, post-radiotherapy cancer patients exhibit signs of negative coping with treatment and life [6]. This is attributed to the fact that most patients, despite having some knowledge of radiotherapy, experience a deepening psychological burden upon actually feeling the pain of treatment and witnessing skin ulceration. According to research by Wang Miaojun, patients undergoing chemotherapy, usually in the advanced stages of cancer, are more likely to experience depression and anxiety than those receiving radiotherapy[7]. Fourthly, patients receiving biological therapy also display negative psychological states, often characterized by doubt, resistance, and fear[8]. In summary, patients undergoing any form of cancer treatment are prone to negative psychological states. This is because, even with the knowledge that treatment can prolong life, patients often remain apprehensive about their survival. Furthermore, due to a lack of understanding of cancer treatments, facing the pain and unforeseen situations during treatment typically exacerbates patients' anxiety and depression. Additionally, some patients choose to conceal their emotions, appearing normal or even more gentle than usual, making it difficult for nurses and family members to detect negative changes in their psychological state. In the absence of psychological intervention, these patients continue with unadjusted treatment plans, creating a vicious

cycle that intensifies their psychological burden and leads to despair and abandonment of treatment towards the end of their survival period.

#### 4. Conclusion

Annually, tens of thousands of cancer patients are diagnosed, and most families must swiftly decide whether to pursue treatment. However, the vast majority, including the patients themselves, lack a clear understanding of cancer treatments and their side effects. This lack of information often leads some patients and their families to forgo treatment to avoid the associated pain and financial burden. Yet, in reality, this decision does not necessarily result in a positive psychological state for the patient. Those who undergo cancer treatment may also experience anxiety and depression due to adverse reactions during treatment and concerns about their life expectancy. Therefore, proactive psychological interventions in hospitals are essential to alleviate patients' mental stress[9]. Additionally, from a societal perspective, the pros and cons of different cancer treatments and their methods should be widely disseminated, enhancing public awareness of the treatment process and the consequences that cancer patients must confront and bear. This study did not find direct research evidence to suggest that the negative psychological states of patients who do not receive treatment are solely due to their inability to alleviate pain through medical means. This is because most current research focuses on the psychological states of patients receiving treatment, often overlooking the feelings of those who do not. Hence, future research should aim to provide more comprehensive analyses of the quality of life and psychological states of cancer patients who do not undergo treatment.

#### References

- [1] Ganxia, Liu Shan, Zhong Mingyan & Qi Yanghong. (2018). The effect of biological therapy on patients with malignant tumors. *Medical equipment* (11), 35-36.
- [2] Wang Xin. (2018). The application research progress of psychological care in clinical treatment of tumor patients. *Smart Health* (27), 54-55. Doi: 10.19335/J.CNKI.2096-1219.2018.27.027.
- [3] Hu Longxia. (2021). Master's degree thesis of a nostalgic guidelines for patients with malignant tumors, Wuhan Light Industry University). <https://link.cnki.net/doi/10.27776/d.cnki.gwhgy.2021.000004> Doi: 10.27776/d.cnki.gwhgy.2021.000004.
- [4] Zou Xiaoli. (2019). Psychological status and care countermeasures of patients with gynecological tumor surgery. *Everyone's health* (14), 195.
- [5] Su Xiaoyin, Zhu Yanli, Cai Yueying. (1997). Cancer chemotherapy patients' anxiety and analysis and countermeasures. *Chinese Nursing Magazine* (12).
- [6] Gao Wei, Yang Min, Li Guiyun, Han Lili & Huang Ping. (2006). Investigation and analysis of the mental health and response methods before the radiotherapy of malignant tumor patients. *Nursing magazine* (19), 59-61.
- [7] Wang Miaojun, Huang Hualan, Chen Qiongzi, Li Jiexuan. (2004). Investigation of the mental health and related factors of cancer chemotherapy patients. *Nursing research* (07), 595-596.
- [8] Guo Lihua. (2012). Psychological problems and countermeasures of patients with tumor biological therapy. *Chinese and foreign medical treatment* (01), 163-164. Doi: 10.16662/J.CNKI.16742.2012.01.133.
- [9] Wang Jianping, Chen Zhonggeng, Cui Junnan. (1997). Analysis of the mental health of cancer patients.