

# Effect of Psychological Intervention on Patients with Lung Cancer Undergoing Chemotherapy

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**Abstract:** Lung cancer is a common malignant tumor with a high incidence and mortality rate. Chemotherapy is a common treatment option for lung cancer patients, and while it has certain therapeutic effects, it is associated with various adverse reactions, including nausea, vomiting, bone marrow suppression, and hair loss. These adverse effects can lead to anxiety and depression in patients, directly affecting disease progression. Therefore, it is important to focus on psychological intervention for lung cancer patients undergoing chemotherapy to improve their negative emotions and enhance treatment compliance. This article provides an overview of the role of psychological intervention for chemotherapy patients with lung cancer.

**Keywords:** Psychological intervention; Lung cancer; Chemotherapy; Negative emotions

## 1. Introduction

Lung cancer ranks first in both incidence and mortality among malignant tumors in China. The causes of this disease are complex, with most scholars attributing it to factors such as smoking, occupational exposure, air pollution, ionizing radiation, diet and physical activity, and genetics. In recent years, with the changing social environment in China, the incidence of lung cancer has been steadily increasing and showing a trend toward affecting a younger population, posing a significant burden on society. Lung cancer often remains asymptomatic in its early stages, and most patients are diagnosed at an advanced stage, requiring comprehensive treatment approaches primarily centered around chemotherapy. While chemotherapy can extend the survival time of patients, it is associated with numerous adverse reactions, seriously impacting the physical and mental health of patients. Clinical observations have revealed a close relationship between the psychological resilience and fatigue levels of lung cancer patients [1]. The implementation of psychological intervention can help improve the psychological well-being of lung cancer patients undergoing chemotherapy, enhance their self-efficacy, and contribute to better prognoses.

## 2. Treatment Efficacy and Adverse Reactions of Chemotherapy for Lung Cancer

### 2.1. Treatment Efficacy of Chemotherapy

Late-stage lung cancer often presents with local infiltration and distant metastasis, making surgical and radiotherapeutic treatment less ideal. Therefore, chemotherapy plays a central role in the treatment approach. Currently, first-line chemotherapy regimens for lung cancer in clinical practice include platinum-based double-agent regimens, such as cisplatin combined with paclitaxel, cisplatin combined with pemetrexed, and cisplatin combined with gemcitabine, among others. Second-line chemotherapy often involves the use of docetaxel or pemetrexed as single-agent therapy. Cisplatin is the most effective treatment option for advanced lung cancer at present, and its combination with other chemotherapy drugs can improve clinical outcomes in lung cancer patients.

### 2.2. Adverse Reactions of Chemotherapy

Chemotherapy drugs primarily work by killing cancer cells or inhibiting their growth to achieve a therapeutic effect. However, these drugs can also affect normal cells, leading to the occurrence of various adverse reactions. Common adverse reactions include nausea, vomiting, bone marrow suppression (reduction in white blood cells, platelets, and red blood cells), and hair loss. Research has indicated a positive correlation between the frequency and severity of chemotherapy adverse reactions

and the severity of cancer-related fatigue in lung cancer patients [2].

### **3. Psychological State of Lung Cancer Patients Undergoing Chemotherapy**

Most lung cancer patients undergoing chemotherapy are in the advanced stages of the disease and often experience cancer-related pain, which adds to their physical and psychological distress. Furthermore, the numerous adverse reactions associated with chemotherapy, such as severe nausea, vomiting, hair loss, and bone marrow suppression, can lead to feelings of pessimism, despair, and anxiety among patients. The occurrence of negative emotions can exacerbate the patient's condition, significantly affecting their prognosis. Clinical studies have found that lung cancer patients undergoing chemotherapy often experience severe anxiety and depression, which can trigger physiological stress responses, exacerbating adverse reactions and reducing their overall quality of life.

Research conducted by Zhou Ling and others suggested a close correlation between the psychological state of non-small cell lung cancer patients before chemotherapy and the occurrence of gastrointestinal adverse reactions during chemotherapy. This is primarily due to the influence of psychological state on gastrointestinal function. If patients experience negative emotions, it can affect gastrointestinal function, leading to an increased occurrence of gastrointestinal adverse reactions during chemotherapy [3]. Another study by Qu Wenmin and colleagues found a significant correlation between fatigue in lung cancer patients during chemotherapy and their disease awareness, treatment attitudes, negative emotions, and coping strategies [4].

### **4. The Role of Psychological Intervention in Lung Cancer Patients Undergoing Chemotherapy**

#### ***4.1. Changing Patients' Coping Strategies***

Lung cancer patients, plagued by the disease and the adverse reactions brought about by chemotherapy, are prone to various psychological issues that can affect their treatment compliance and prognosis. Hence, there is a need to strengthen psychological intervention to help change the way patients cope and encourage active cooperation with clinical treatment. Psychological intervention primarily targets patients' psychological issues and employs various intervention measures to improve their negative emotional experiences, thereby enhancing both their physical symptoms and treatment compliance. Scholars have observed that adopting a positive coping approach can effectively improve negative emotions and quality of life in elderly lung cancer patients undergoing chemotherapy. Thus, it is recommended that lung cancer patients undergoing chemotherapy modify their coping strategies to enhance treatment compliance [5].

#### ***4.2. Improving Patients' Psychological State***

Lung cancer patients commonly experience varying degrees of anxiety and depression, with depression directly impacting their social and functional status. The implementation of psychological intervention is beneficial for enhancing the psychological adaptability of lung cancer patients, reducing the degree of psychological distress, and positively impacting disease treatment. Research by Deng Wenqing and others suggests that the psychological resilience of lung cancer patients undergoing chemotherapy is influenced by multiple factors. Therefore, during chemotherapy, it is important to provide psychological guidance to high-risk lung cancer patients, which can help improve their psychological state and encourage active cooperation with clinical treatment [6].

#### ***4.3. Enhancing Patients' Quality of Life***

The implementation of psychological intervention can assist lung cancer patients in reducing their psychological burden, alleviating anxiety and depressive emotions, thus decreasing psychological stress reactions. This, in turn, motivates patients to engage in self-management and improves their quality of life. Some scholars have noted that lung cancer patients undergoing postoperative chemotherapy often exhibit lower psychological resilience. Through psychological intervention and social support, patients' overall quality of life can be improved [7].

## **5. Measures for Psychological Intervention in Lung Cancer Patients**

### **5.1. Psychological Counseling**

With the rapid development of the modern biopsychosocial medical model, the role of psychological factors in the onset and progression of diseases has garnered attention from numerous scholars. In the past, clinical medicine considered psychological intervention as merely an adjunctive measure and not a necessary component of clinical treatment, leading to limited research in this area. However, as modern research has delved deeper, it has become evident that psychological intervention not only improves the psychological well-being of patients but also contributes to enhancing clinical treatment outcomes and improving patients' prognoses. Therefore, psychological intervention has become an essential component of clinical treatment, encompassing various aspects. Psychological counseling is a crucial measure within psychological intervention, often focused on relaxation techniques, regulating the central nervous system and sympathetic nervous system activity to help patients relax both mentally and physically, thereby ameliorating their negative emotions. Research by Nie Zhenzhen and others has shown that combining psychological intervention with health education is beneficial for improving anxiety and depression in lung cancer patients undergoing chemotherapy, thus reducing gastrointestinal adverse reactions and enhancing patients' quality of life [8].

### **5.2. Cognitive Intervention**

Cognitive-behavioral theory suggests that a patient's level of cognition affects their behavior and beliefs. Currently, many lung cancer patients undergoing chemotherapy hold misconceptions, leading to a relatively pessimistic attitude toward treatment. Therefore, cognitive-behavioral intervention is necessary to improve patients' understanding of the disease and treatment, establish correct thought patterns, confront the disease, boost treatment confidence, reduce negative emotions, and enhance compliance with clinical treatment. Research by Zhang Fengjun and others indicates that phased cognitive-behavioral intervention is beneficial for improving the psychological state of lung cancer patients undergoing chemotherapy, increasing patient adherence and quality of life, and ultimately improving patient prognoses [9].

### **5.3. Family Intervention**

The biopsychosocial medical model suggests that strong family support can improve a patient's psychological state, so family intervention is crucial for enhancing the psychological well-being of patients. In practical interventions, active health education should be provided to family members to guide their participation in psychological intervention, assisting patients in expressing negative emotions and releasing pent-up unpleasant feelings. Additionally, strong family support can reinforce a patient's treatment motivation and change their avoidance attitudes. Research by Fan Yaping and others indicates that family-centered intervention helps improve the negative emotions of lung cancer patients undergoing chemotherapy, enhances self-management capabilities, alleviates insomnia symptoms, and enhances quality of life, earning recognition from both doctors and patients [10].

### **5.4. Music Therapy**

Music therapy is an important aspect of psychological intervention as music can regulate various bodily organs and improve a patient's negative emotions. Gentle and soothing music can reduce a patient's anxiety, while music therapy also helps divert the patient's attention, alleviate the suffering caused by adverse reactions, help maintain stable vital signs, and promote the recovery of physical symptoms. In practical application, it is important to select music tracks that align with the patient's musical preferences. Research by Shen Zhihui and others indicates that the combination of psychological intervention with music relaxation therapy helps alleviate the psychological distress and cancer-related fatigue of patients, ultimately improving their quality of life [11].

### **5.5. Muscle Relaxation Exercises**

Muscle relaxation exercises primarily involve consciously controlling muscle contractions and relaxation, thereby reducing the level of arousal in the body, improving bodily function disorders, and indirectly regulating the psychological state of patients. This helps maintain emotional stability and improve the overall well-being of patients. Currently, muscle relaxation training is widely used in

clinical practice and can alleviate abdominal pain symptoms caused by gastrointestinal muscle spasms, as well as reduce feelings of fatigue in patients. Research by Wang Xiaomei and others suggests that a combination of exercise, sleep, and psychological intervention can alleviate cancer-related fatigue in lung cancer patients undergoing chemotherapy, enhancing their quality of life [12].

## 6. Conclusion

This study has examined the role of psychological intervention in lung cancer patients undergoing chemotherapy, providing significant insights into the field of psychological intervention. The occurrence of negative emotions can have a profound impact on the physical and mental health of lung cancer patients undergoing chemotherapy. Therefore, it is crucial to prioritize psychological care interventions to improve patients' anxiety and depression, and alleviate psychological stress reactions. Psychological care interventions can change the way patients cope, enhance self-efficacy, and promote patient compliance with clinical treatment.

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