International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2024: 7.101

Psychological Impact and Contributing Factors in Patients with Lung Cancer: Prevalence and Determinants

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Abstract: ***Lung cancer is a major cause of sickness and mortality worldwide, with significant psychological consequences for affected individuals. This study examines the prevalence of psychological crisis, including anxiety, depression and emotional burden in lung cancer patients and identifies significant contribution factors. A comprehensive analysis of demographic, clinical and psychological determinants is performed to assess their impact on mental health results. Factors such as disease stages, treatment methods, social support and copy mechanisms are examined for their role in affecting psychological welfare. It is important for lung cancer patients to understand these determinants to develop the quality of life to improve the quality of life and mental health aid. Includes highlight the need for a multiple approach in oncology care to address both physical and psychological challenges faced by patients.***

Keywords: Lung cancer, neuroticism, chronic stress, cortisol, immune suppression, mental health

1. Introduction

Lung cancer is one of the leading causes of death worldwide, in which smoking is the main risk factor. According to the World Health Organization (WHO), lung cancer has about 18.4% of all cancer - related deaths worldwide, with non - if (NSCLC) lung cancer and small cell lung cancer (SCLC) the most common types (WHO, 2020). Although smoking is the maximum vital motive, different danger factors, such as environmental pollution, genetic predispositions and additionally diagnosed mental results. Psychological threat elements discuss with emotional and behavioral aspects that can contribute to the improvement or development of a disorder. This covers stress, melancholy, anxiety and persistent emotional disaster that can affect the immune gadget, inflammatory approaches, and mobile repair mechanisms (Cohen et al., 2012). In the context of most lung cancers, research recommends that persistent mental stress can weaken the body's ability to combat carcinogenic marketers, which potentially allows the development of tumors. In addition, mental health disorders can affect lifestyle options such as smoking or bad diet, which can increase the risks of cancer (ANDERSON et al., 2016).

The interaction between psychological stress and the development of lung cancer underlines the importance of a holistic approach to prevention and treatment, physical and psychological well - being (Kiecolt - Glaser et al., 2018).

2. Stress and Lung Cancer

Stress has been identified as an important psychological factor that can affect the growth and progression of lung cancer. The chronic stress activates the body stress response system, which includes hypothalamic - hypophysis - adrenal (HPA) and sympathetic nervous system, leading to an increase in stress hormone production such as cortisol and adrenaline. These hormones can affect the immune system, promote inflammation and improve tumor growth and metastasis (Miller et al., 2008). There are two main types of stress relevant to the development of cancer: acute and chronic. Although acute stress is often shorter, chronic stress has prolonged effects, potentially pressurizes immune function and accelerates the progression of cancer (Chida et al., 2008). Many studies have linked chronic stress to the results of the highest cancer. For example, Anderson et al. (2006) found that psychological stress in cancer patients was associated with the progression of the disease and the high risk of reducing the survival rate.

3. Depression and Lung Cancer

Depression is a general mental health condition that has frequent feelings of sadness, loss of interest and lack of energy. In patients with lung cancer (LC), depression may appear through symptoms such as fatigue, weight loss, difficulty in sleeping, and feelings of despair. Diagnosis of depression involves a clinical evaluation using standardized devices such as the patient health questionnaire (PHQ - 9) or Hamilton depression rating scale (HDRS), which assess the severity and effects of the symptoms of depression on daily functioning. Depression can significantly affect health behavior, often increasing risk factors for lung cancer. Individuals suffering from depression may engage in unhealthy behavior such as smoking, poor diet options and lack of exercise. These behaviors not only increase the risk of developing lung cancer, but also complicate the results of treatment for patients already diagnosed with LC. For example, studies have shown that smokers with depression are less likely to leave and are more likely to be more (Sulivan et al., 2013). Depression is also associated with poor adherence to treatment schemes, including cancer (Walker et al., 2014). Evidence suggests a bidishist relationship between depression and lung cancer. Symptoms of depression can contribute to the risk of developing LC by affecting lifestyle factors and possibly direct immune function and inflammation (Nash et al., 2016).

4. Anxiety and Lung Cancer

Anxiety can take various forms including a common psychological situation, anxiety disorder (GAD), terror disorder and social anxiety. In terms of lung cancer (LC), anxiety may arise due to fear of diagnosis, side effects of treatment, or uncertainty of existence. Generalized anxiety disorders are characterized by excessive anxiety, while in panic disorders, suddenly, intensive episodes of fear are involved, and social anxiety is often from concerns about cancer - related decisions or stigma (Hofman et al., 2012).

Physically, anxiety activates the body's stress response, increases the level of heart rate, blood pressure and cortisol. Chronic anxiety can lead to an increase in deformity of the immune system, inflammation, and the cellular repair system can be compromised, possibly contributing to the development and progress of lung cancer (Perez - Tizada et al., 2019). Anxiety can also affect cancer - related behavior, such as smoking, unhealthy food, and adherence to poor treatment (Zhang et al., 2017).

Many studies have found a relationship between anxiety and worse cancer consequences. For example, a study by Kiecolt - Glaser et al. (2014) showed that anxiety in cancer patients was associated with poor survival rates, which highlights the importance of addressing mental health in cancer care.

5. Personality traits and Lung Cancer

Personality symptoms, such as Type A behavior and neuroticism, have been associated with various health results, including the development and progress of lung cancer (LC). Type A is a characteristic, impatience, aggression and characteristic of competition, often associated with high levels of stress. This continuous state of stress can lead to physical changes, including blood pressure, inflammation and elevated cortisol levels, all of which can contribute to the risk and progression of cancer (Rosengrain et al., 2004). People with type - A symptoms also have more likely to engage in unhealthy behaviors, such as smoking, which is the primary risk factor for LC (Tyndal et al., 2009). The characteristic of neuroticism, negative emotions, anxiety and irritability has also been found to affect another personality characteristic, health results. Neuroticeism may have an increased stress reaction in high individuals and is more likely to experience chronic emotional crisis, which can suppress immune function and increase vulnerability to diseases such as cancer (Chida and Hammer, 2008). In addition, neurotisism is associated with poor copying strategies, resulting in smoking and adherence to poor treatment (molar - laimkuhaler et al., 2003). Understanding these personality symptoms, can help identify high - risk individuals for LC, emphasize the need for psychological intervention in cancer prevention and treatment.

6. Coping mechanisms and Lung Cancer

Coping mechanisms are strategies that individuals use stress to manage stress, and they can significantly affect health results, including the development and progress of lung cancer (LC). Coping strategies are generally classified into adaptive and ugly forms. Strategies of adaptive copy include problems - solution, demanding social support, and practicing mindfulness, which can all help reduce stress and promote emotional welfare. These strategies have been shown to increase immune function and improve health behavior, such as following treatment plans and maintaining a healthy lifestyle (Folkman and Moskovitz, 2004). The adaptive sexual system can help reduce the negative effects of stress on the body, possibly reduce the risk of cancer growth and improve cancer consequences (Zauutra et al., 2010). On the other hand, malicious combat strategies, such as ivricate, drug abuse, and refusal, can spoil stress and contribute to unhealthy behaviors such as smoking, poor diet, and lack of exercise for LC. Maladaptive copying can also suppress the immune function, causing the body to be susceptible to the disease and the ability to deal with cancer (Carver et al., 2000). Research has shown that patients with LC who use malicious sexual mechanisms often experience worse psychological crisis and poor health results (Leho et al., 2013).

7. Social Support and Lung Cancer

Social help plays a crucial position in the good of lung cancer patients, which includes emotional, instrumental and informative assist. Emotional support includes sympathy, encouragement and warranty from own family and friends, reducing strain and tension (Huang et al., 2020). Instrumental help is sensible help, transportation and financial assistance as well as reducing the burden of treatment (GISS - DEVIS et al., 2018). Information support supplied with the help of healthcare experts provides facilities to patients to make informed alternatives about measures (Chen et al., 2021). Studies show that strong social aid increases the general first - day of lifestyle (Uchino, 2019).

8. Conclusion and Future Directions

Lung cancer is not only a significant physical health burden, but also psychological and emotional effects on patients. The presence of strong social support, including emotional, instruments and informative aid, plays an important role in patients' mental welfare, adherence to treatment and improve the overall quality of life. However, many patients still experience social isolation, psychological crisis and insufficient support, which highlight the need for supportive care intervention.

Future research should focus on developing psychological intervention, such as support groups, counseling programs and digital health platforms to provide accessible and personal assistance to lung cancer patients. Additionally, healthcare providers must include regular psychological assessment and social aid strategies in cancer care to effectively address the emotional crisis. Extending public awareness and strengthening community - based support networks can further increase patient results. A multi - disciplinary approach to integrate medical, psychological and social care will be necessary in improving the overall welfare of lung cancer patients.

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