# Impact of COVID-19 Pandemic on Symptoms Experienced by Patients Suffering from Advanced Lung Cancer

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## ABSTRACT

**Introduction:** The COVID-19 pandemic posed significant challenges for patients, especially those with end-stage cancer. However, the exact impact of the pandemic on their symptoms remained uncertain. To address this gap, we conducted a study comparing the symptoms of end-stage lung cancer patients (one of the most common cancers) before and during the COVID-19 pandemic.

**Methods and Materials:** In this retrospective cross-sectional study, the symptoms recorded by palliative care physicians during homecare visits for advanced lung cancer patients were analyzed. The data were recorded during two 18-month periods: before (from June 22nd, 2018, to December 22nd, 2019) and during (from March 20th, 2020, to September 20th, 2021) the COVID-19 pandemic. Patient information includes demographic information, medical history, and the clinical symptoms experienced in the final 6 months of life (collected via "Memorial Symptom Assessment Scale – Short Form, MSAS-SF). The Kolmogorov–Smirnov test was used to evaluate data distribution. Subsequently, an independent T-test and Mann-Whitney U test were employed to compare quantitative variables between the two-time frames as appropriate. The Chi-square test was used to analyze qualitative variables.

**Results:** The study evaluated 250 cases of lung cancer, including 124 patients (mean (SD) age, 66.2 (13.8) years) before the COVID-19 pandemic and 126 patients (mean (SD) age, 64.3 (13.2) years) during the pandemic. The prevalence of symptoms among cancer patients was compared between these two groups of patients. Significant increases were observed in the number (%) of cases with constipation (63 (50.8%) vs. 86 (68.3%); $p = 0.005$), Difficulty Concentrating (25 (20.2%) vs. 44 (34.9%); $p = 0.009$), Difficulty Swallowing (14 (11.3%) vs. 47 (37.3%); $p \leq 0.001$), lack Of appetite (76 (61.3%) vs. 102 (81.0%); $p = 0.001$), Difficulty Sleeping (34 (27.4%) vs. 74 (58.7%); $p \leq 0.001$), Feeling Drowsy (21 (16.9%) vs. 39 (31.0%); $p = 0.009$), mouth Sores (12 (9.7%) vs. 28 (22.2%); $p = 0.007$), Weight Loss (15 (12.1%) vs. 36 (28.6%); $p = 0.001$). The changes in 24 other clinical symptoms were not statistically significant.

**Conclusion and Discussion:** This study identified a remarkable alteration in the prevalence of eight symptoms experienced by patients with advanced lung cancer during the SARS-Cov-2 outbreak. This finding highlights the necessity of developing healthcare policies to monitor the latent effects of future pandemics in vulnerable populations. It is important to acknowledge that this research could serve as a foundation for future investigations to identify the underlying reasons for this observation.

*Keywords:* COVID-19, Home care services, Lung neoplasms, Pandemics, Palliative care