

# Worsening depression cuts survival in lung cancer patients

October 12 2021, by Jeff Grabmeier

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Lung cancer patients whose symptoms of depression got worse after diagnosis died significantly earlier than those whose symptoms stayed the same or improved, a new study shows.

Even patients who received new treatments that have dramatically improved survival for many people with advanced lung [cancer](#) saw their lives shortened if they had worsening depression.

This is the first study that has examined how the trajectory of depressive symptoms affects survival in [lung cancer patients](#), said Barbara Andersen, lead author of the study and professor of psychology at The Ohio State University.

"Previous studies have just looked at depression at the time of diagnosis and shortly thereafter to predict survival," Andersen said.

"But this study shows that what happens to depression levels after diagnosis and in the months thereafter are key to understanding how depression relates to premature death."

The study was published online Oct. 9, 2021, in the journal *Psychosomatic Medicine*.

The study involved 157 patients with advanced lung cancer (Stage IV) at Ohio State's Comprehensive Cancer Center. The patients completed measures of symptoms of major depressive disorder and generalized anxiety disorder when they entered the study at the time of their diagnosis. They were regularly interviewed, monthly for eight months and then every other month for up to two years.

In addition to depression and anxiety, the researchers' analyses controlled for a variety of other factors that can influence survival, such as age, race, employment status, income levels and smoking status.

They also analyzed [important factors](#) that haven't been considered in most other studies that have looked at the connection between psychological symptoms and survival in lung cancer patients, including

type of cancer treatment received, marital status and education.

After controlling for these factors, the trajectory of anxiety, beginning at diagnosis and continuing thereafter, did not have a significant effect on survival, but the trajectory of depression did.

At diagnosis, about 28% of patients had moderate levels of depression, while 8% had moderate to severe levels of depression. The rest had lower levels.

The good news, Andersen said, is that most patients showed decreases in symptoms of depression after diagnosis as they were tested every one to two months.

But those who didn't, and who had the most severe depressive symptoms, were likely to die earlier.

For example, those patients who had no or only mild levels of depression at three months post-diagnosis had a better than 50% chance of surviving to 15 months. Survival rates of those who had moderate to severe levels were closer to 30%.

The researchers also compared two patients who had similar depression scores at diagnosis and were similar in all other ways, but one person's symptoms improved while the other's got worse by the time they were both evaluated at five months.

For the patient whose depression symptoms improved, projected one-year survival was 64%, versus 42% for the patient whose symptoms worsened, an analysis showed.

This study comes at a time when the prospects for lung cancer patients have never been better. The introduction of immunotherapies and the

increasing use of targeted therapies have dramatically improved overall survival, with five-year survival rates as high as 23% in early trials, a stark contrast to estimates of 4.2% from the prior decades of chemotherapy use.

"But we found in this study, for the first time, that even as impressive new treatments are coming online, their efficacy may be constrained for those patients also struggling with depression," Andersen said.

"These data are novel in suggesting continuing depression as a significant limiting factor, even when the best therapies we have for lung cancer are being used."

The findings strongly suggest that lung cancer patients should be screened for [depression](#) and when moderate levels of symptoms are present, the patient should be referred for psychological treatment, Andersen said.

Other research has shown that [lung](#) cancer patients are the most psychologically disabled of all cancer groups.

"We need to help these patients, not only at [diagnosis](#), but throughout treatment to take depressive symptoms out of the equation and let these impressive new therapies do their jobs," Andersen said.

"This study is incredibly persuasive evidence for that."

**More information:** Barbara L. Andersen et al, Psychological Symptom Trajectories and Non-Small Cell Lung Cancer Survival, *Psychosomatic Medicine* (2021). [DOI: 10.1097/PSY.0000000000001027](https://doi.org/10.1097/PSY.0000000000001027)

Provided by The Ohio State University

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