

# Cystic Fibrosis Research News

## Title:

DECREASED SURVIVAL IN CYSTIC FIBROSIS PATIENTS WITH A POSITIVE SCREEN FOR DEPRESSION

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## What was your research question?

Are anxiety or depression associated with a higher death rate in people with CF, even when taking into account certain characteristics that might make sicker patients more susceptible to mental health disorders?

## Why is this important?

The International Depression Epidemiological Study (TIDES) found elevated rates of screen positivity for depression and anxiety among individuals with cystic fibrosis (CF). Depression is associated with increased mortality in the general population and in people with chronic disease, and with worse treatment adherence and health-related quality of life in CF. Associations of outcomes with anxiety are less clear-cut. We investigated the relationship of anxiety and depression with 5-year mortality in people who had participated in the TIDES study.

## What did you do?

With subject consent, we linked mental health screening data from the TIDES study to US CF Foundation registry data regarding clinical characteristics and mortality. Subjects were untransplanted participants in the TIDES study who were 12+ years of age and receiving care at one of 45 collaborating US CF care centers who completed screening tests for anxiety and depression during a stable visit between 2006 and 2010. The association of a positive screen



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for either anxiety or depression with 5-year survival was evaluated with and without adjustment for possible mitigating characteristics using a statistical technique called Cox Proportional Hazards modelling.

## **What did you find?**

Of 1,005 subjects, 25% screened positive for depression and 34% screened positive for anxiety. There were 96 deaths. Subjects who screened + for depression were twice as likely to die over the ensuing 5 years. When adjusted for differences in mitigating factors (public vs private health insurance; presence of diabetes; age; gender), the overall risk decreased and became borderline significant. However the increased risk was still significant in adults, and especially in people who screened in the severe (as opposed to mild-moderate) range for depression. The cause of death was similar in all groups. Anxiety was not associated with mortality.

## **What does this mean and reasons for caution?**

CF patients who screen positive for depression are more likely to die over the ensuing 5 years. However, with adjustment for mitigating factors, the association was only clearly present in adults and those screening in the severe range. It is important to recognize that database analyses such as these can be misleading if the subjects were not representative of the entire CF population, or if unrecognized factors were in play. Furthermore, the cause of this association is unclear. While depression may cause increased mortality, it is also possible that patients who are getting sicker are more likely to get depressed.

## **What's next?**

We plan further analyses regarding intermediary factors and mechanisms for the apparent relationship between depression and mortality, including adherence and disease self-management, clinic attendance, lung function decline, nutritional status, and prevalence of pulmonary exacerbations. Studies are also underway on prevention and treatment of anxiety and depression in people with CF.

## **Original manuscript citation in PubMed**

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