



# Cystic Fibrosis Research News

## **Citation:**

Harness-Brumley CL, Elliott AC, Rosenbluth DB, Raghavan D, Jain R. Gender Differences in Outcomes of Patients with Cystic Fibrosis. *Journal of Women's Health*. 2014 Dec; 23 (12): 1012-1020. PMID: 25495366

## **What was your research question?**

Does gender still affect survival outcomes between male and female Cystic Fibrosis (CF) patients? In addition we wanted to look at the effect of lung infections on men versus women.

## **Why is this important?**

Since the 1990s, reports have shown that women with CF have lower survival rates than men with CF. Females also have worse outcomes than males in response to respiratory infections. It is important to understand whether these survival differences still exist today. This work might also help us to identify whether there are behaviors we can change to help narrow the gender-based gap.

## **What did you do?**

We studied a group of patients in the US CF Foundation Patient Registry (CFFPR) that were followed from 1995 to 2007. We calculated the survival rates in males and females. In addition, we studied the effect of respiratory infections on the survival outcomes of both male and females.

## **What did you find?**

We found that females with CF continue to show a decreased life expectancy compared to males by about 3 years. Women also acquire lung infections at an



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earlier age and have shorter life expectancies when dealing with respiratory infections when compared to males.

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

Females with CF still have a distinct disadvantage when it comes to survival in spite of numerous improvements in treatment. Women appear to be more susceptible to acquiring lung infections at an earlier age, which might help explain their worse outcomes. Researchers are only beginning to look into specific causes for this difference. This study did not examine other key survival variables like patient exercise habits and medication compliance. It also followed the group only until 2007, so we do not know the effect of newer treatments on the gender gap since 2007.

## **What's next?**

We have started to evaluate mechanisms to explain these poorer outcomes of female, like inflammation differences, immune responses, hormone levels, and airway size and diameter.