

# Cystic Fibrosis Research News

**Title:**

The impact of cystic fibrosis-related diabetes on health-related quality of life

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**What was your research question?**

Does having diabetes and pre-diabetes compared to normal blood sugars affect health-related quality of life (HRQoL) among adults with cystic fibrosis (CF)?

**Why is this important?**

About 40-50% of adults living with CF develop diabetes, referred to as CF-related diabetes (CFRD). By studying whether various aspects of HRQoL differ between CF adults with CFRD and pre-diabetes, health-care professionals and researchers can focus on new ways to improve the quality of life with CF and diabetes.

**What did you do?**

151 adults with CF from our clinic completed a validated questionnaire that evaluated twelve different aspects of HRQoL. These twelve aspects are Physical Functioning, Vitality, Emotion, Eating, Treatment Burden, Health Perceptions, Social, Body Image, Role Functioning, Weight, Respiratory Symptoms, and Digestion. We then grouped the adults with CF by: CFRD on insulin, CFRD not on insulin, impaired glucose tolerance (pre-diabetes), and normal blood sugars. Scores from the HRQoL questionnaires between these four groups were compared. Clinical and demographic characteristics were also collected and compared.

**What did you find?**

Of the twelve HRQoL aspects that were assessed, Treatment Burden was worse for individuals with CFRD on insulin when compared to the other three groups, even when other differences



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in disease status were accounted for. Treatment Burden captures the extent CF treatments make daily life more difficult, the amount of time spent each day on treatments, and the difficulty of undergoing these treatments each day. None of the other HRQoL aspects demonstrated obvious differences between the groups.

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

The reporting of greater Treatment Burden for individuals who have CFRD on insulin means that there are factors contributing to this increased Treatment Burden that need to be identified. Administration of insulin in itself would seem like an obvious contributing factor to treatment burden. However, we were not able to determine if different modes of insulin administration altered treatment burden, or whether other factors that are associated with insulin use, such as frequent blood glucose measurements or increased doctor's appointments could also be contributory. We did not find any other HRQoL aspects that differed between the groups, but a larger study may be needed to show relationships for the other aspects, such as Role Functioning, Digestion, and Body Image.

## **What's next?**

Increased treatment burden has been associated with worse treatment adherence in previous studies, so our findings are a concern as in this group of people with CF it could potentially compromise the management of diabetes which can lead to worse health outcomes. Therefore, future studies should focus on finding better ways to lower treatment burden in individuals with CFRD on insulin to improve their HRQoL.

## **Original manuscript citation in PubMed**

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