**The impact of pregnancy on lung function in women with Cystic Fibrosis in the USA and UK: A registry-based study, 2003-2017**

**Authors:** **Oluwaseun B Esan, Daniela K Schlueter-Mistry, Denitza Williams, Rhiannon Philips, Shantini Paranjothy, Jamie Duckers, and David Taylor Robinson**

**Background**

Women living with cystic fibrosis are living longer healthier lives and increasingly having children [1]. Lung function is known to decrease with age but very little is known about how pregnancy may influence lung function decline. To address this, we assessed the impact of pregnancy on lung function trajectory in women with CF in the USA and UK.

**Methods**

Longitudinal registry study of 11,366 women aged 15-44 years with cystic fibrosis contributing 331,724 lung function measures between 2003 and 2017 in the US; and 3,433 women contributing 24,394 measures from the UK over the same period. Pregnancy was recorded as a binary event in annual review records. We used previously developed mixed effects models (random intercept and slope) to assess whether the rate of decline of lung function changed following pregnancy, while adjusting for clinically important covariates including age at diagnosis, genotype and birth cohort [2,3].

**Results**

A total of 1,637 first pregnancies were recorded in the US and 596 in the UK, with most occurring pre-modulator era (before 2013, USA - 65% and UK - 60%). Baseline clinical and demographic characteristics were similar for both population groups. Following a record of pregnancy, the overall rate of lung function decline increased by 0.31 percentage points in %FEV1 per year (95% CI 0.23 to 0.39) in the US; and by 0.37 (95% CI 0.18 to 0.56) in the UK.

**Conclusions**

Our preliminary analysis suggests that pregnancy may be associated with an increased rate of decline of lung function of around a third of a percentage point per year in the US and the UK. Further robustness checks using alternative model specifications are required, along with studies in cohorts of women who have benefited from modulator therapy.

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