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MOVING FROM RESCUE TO PREVENTION: REAL WORLD EVIDENCE OF REDUCTION IN IV ANTIBIOTIC REQUIREMENT FOLLOWING IMPROVEMENT IN ADHERENCE TO MAINTENANCE NEBULISED TREATMENT IN AN ADULT CYSTIC FIBROSIS CENTRE

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Background

Adherence to preventative nebulised therapy is associated with better health and lower costs for rescue treatment. However, adherence with nebulised treatment is generally poor and there is currently no systematic adherence intervention for people with CF. The Sheffield Adult CF centre has embarked on various pilot projects in this area, culminating in an NIHR programme grant awarded in 2014 to develop such a systematic adherence intervention. We hypothesised that the pilot projects would have improved the adherence levels and health outcomes among people with CF receiving care at the CF centre.

Objectives

To determine overall change in nebuliser adherence and health outcomes among the cohort of people with CF in Sheffield from 2013 to 2014. Methods Demographic data, spirometry, BMI, annual total intravenous antibiotics days and prescription details were obtained by reviewing patient notes. Adherence was measured with I-neb nebuliser and calculated as a percentage of the agreed regimen between clinicians and people with CF. People on ivacaftor or with previous lung transplantation were excluded from this analysis.

Results

15 people were excluded from the analysis for both years. The cohort increased from n = 166 in 2013 to n = 170 in 2014, with a similar increase in the number of people with I-neb data for 3 months (n = 83 in 2013, n = 85 in 2014).

Median nebuliser adherence improved from 40.5% in 2013 to 49.5% in 2014.

The median FEV1 remained stable at 79% while BMI improved slightly from 22.0 in 2013 to 22.7 in 2014.

The total IV days reduced by 657 from 3970 in 2013 to 3313 in 2014; a potential saving of around £156,000.

	2013 data (n = 166)	2014 data (n = 170)
People on I-neb (%)	92 (55%)	101 (59%)
People with ≥3 months of I-neb data (%)	83 (50%)	85 (50%)
Median % I-neb nebuliser adherence (IQR)	40.5 (20.2–66.8)	49.5 (23.1–77.8)
Median age in years (IQR)	25 (19–31)	26 (20–32)
Female (%)	75 (45%)	79 (46%)
Pancreatic insufficiency (%)	138 (83%)	136 (80%)
CF related diabetes (%)	38 (23%)	41 (24%)
Median % predicted FEV1 (IQR)	79 (56–95)	79 (56–93)
BMI (IQR)	22.0 (19.7–24.6)	22.7 (19.8–24.9)
Median IV days (IQR)	14 (0–41)	14 (0–28)
Total IV days	3970	3313

Conclusion

Although adherence remains a challenging issue, these data suggest the potential of benefits of improved adherence. More work will be needed to examine the adherence data in more detail and to collect further longitudinal data to determine if there is a clear trend of improvement.