

Evaluation of adherence to cystic fibrosis transmembrane conductance protein modulator drugs

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Background and importance

In patients with cystic fibrosis (CF), long-term adherence to various treatments is considered low (46%-70%). Cystic fibrosis transmembrane conductance regulator (CFTR) modulators have recently been licensed. Low adherence to these treatments may decrease efficacy.

Aim and objectives

To assess adherence to CFTR modulators and determine if there are differences because of length of treatment.



Material and methods

Study design

- Retrospective observational study

Study patients

- CF patients
- Treatment with elexacaftor/tezacaftor/ivacaftor, tezacaftor/ivacaftor or lumacaftor/ivacaftor
- Dispensed at outpatient unit
- January 2020 to April 2021

Data collection

- Electronic prescription records:
 - ✓ Demographic variables (age and sex)
 - ✓ Prescription and dispensing dates
 - ✓ Amount dispensed

Outcomes

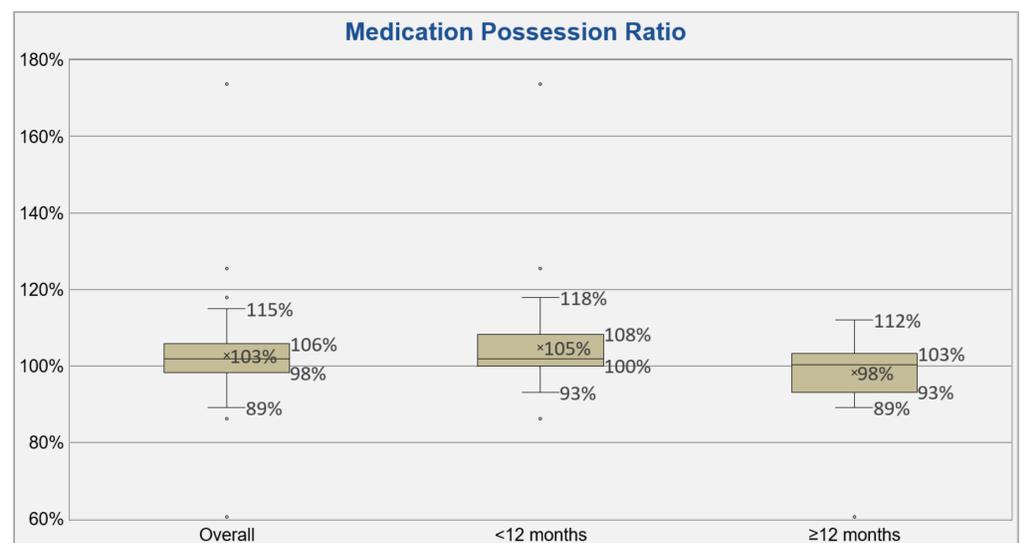
- Adherence was calculated using the medication possession ratio (MPR)
- MPR \geq 80% was considered adequate adherence

Statistics

- Continuous variables: mean (SD) or median (Q1-Q3)
- Categorical variables: absolute and relative frequency
- Relationship between adherence and length of treatment (less or greater than 12 months): non-parametric test of comparison of proportions
- Stata® version 13

Results

	Patients (n = 82)
Women, n (%)	36 (43.9%)
Adults, n (%)	67 (81.7%)
• Age, years median (Q1-Q3)	31.2 (26.1-39.0)
Children, n (%)	15 (18.3%)
• Age, years median (Q1-Q3)	11.6 (7.6-15.6)
Tezacaftor/ivacaftor, n (%)	61 (74.4%)
Elexacaftor/tezacaftor/ivacaftor, n (%)	13 (15.9%)
Lumacaftor/ivacaftor, n (%)	8 (9.8%)
\geq 12 months of treatment, n (%)	27 (32.9%)



- Adequate adherence: 81 patients (98.7%)
- There were no difference in MPR between patients lasting <12 months and whom lasting \geq 12 months ($p = 0.327$)

Conclusion and relevance

- Adherence to CFTR modulators is higher than observed for other drugs in CF patients, but it's needed to study whether adherence with these drugs is maintained in the long-term.
- Although there were no differences in adherence according to the length of treatment, the only patient considered non-adherent was on treatment greater than 12 months.