

Measuring adherence to multiple medicines: a case study among people on combination antiretroviral therapy in Australia

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Background:

Pharmacy dispensing data has been increasingly used to measure adherence to therapy, with no consensus on the best method to measure adherence to multiple medicines. This study demonstrates the impact of implementing five different measures of adherence to combination antiretroviral therapy (cART) using pharmacy dispensing data.

Methods:

This is a retrospective cohort study using a 10% sample of Pharmaceutical Benefits Scheme dispensing claims data. We included patients aged ≥ 18 years and dispensed cART between 1 July 2013 and 30 June 2014. Adherence was assessed using the Proportion of Days Covered (PDC) within 360 days of follow-up, calculated in five different ways: 1) use of ≥ 3 medicines at the same time; 2) use of ≥ 1 medicine at the same time; 3) average adherence rate; 4) the smallest number of days covered per medication; 5) the highest number of days covered per medication. For each method, we also estimated the proportion of patients meeting the threshold of adherence (PDC $\geq 80\%$).

Results:

A total of 1,637 patients were included: 89.7% male, mean age 48 years (SD 11.2), and 57.1% dispensed multi-tablet regimens (MTR). The median adherence ranged from 92.5% to 96.7% and the proportion of patients with PDC $\geq 80\%$ ranged from 69.0% to 83.8% after applying the five different methods, with the lowest value obtained with measure number 5 and the highest value with measure number 2. Higher variation across measures was observed among people on MTR.

Conclusion:

The variation on adherence rates is less pronounced using the median PDC but can be substantially higher when a threshold of adherence is applied. Researchers should consider operationalising multiple measures, especially when dichotomizing adherence. Less restrictive measures can be used to identify a higher number of patients at risk of nonadherence for targeted interventions.

Disclosure of Interest Statement:

The authors have no conflict of interest to declare.