

MEDICATION POSSESSION RATIO AS A MEASURE OF PREP ADHERENCE IN THE EPIC-NSW STUDY

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Background: Adherence to HIV pre-exposure prophylaxis (PrEP) is key to its effectiveness. Poor adherence, defined as taking fewer than 4 pills/week, may also be associated with the acquisition of resistant virus. We report medication possession ratio (MPR) among EPIC-NSW participants who had not ceased PrEP.

Methods: MPR was evaluated among participants enrolled in between March 2016 and April 2017 (n=5,227, 53.8% of total study participants) to allow at least one-year PrEP dispensing by April 2018. Follow-up of participants was censored at last visit if PrEP was not dispensed for more than 180 days (early censoring) or at the end of April 2018, whichever came earlier. MPR was calculated as the total number of pills dispensed from the date of first dispensing to the time of censoring, divided by total days of follow-up. Poor adherence was defined as an MPR of less than 60%, suggestive of taking less than 4 pills/week.

Results: Participants were almost all men (99.0%) and identified as gay or bisexual (98.7%). Median age was 35 years (IQR: 29-44). The median total follow-up was 495 days (IQR: 274-657). Early censoring occurred in 1,760 (33.7%) participants; more common in younger participants (50.2% in those aged <25 vs 24.1% in those aged >45, p trend<0.001). Overall, the median MPR was 98.1% (IQR: 89.8%-100.0%). Poor adherence, recorded in 2.3% of participants, was more common in younger participants (P trend=0.015), those who at baseline reported recent methamphetamine use (OR=1.76, 95% CI 1.18-2.62) and/or those who reported a recent rectal sexually transmitted infection (STI) (OR=1.60, 95% CI 1.03-2.50) .

Conclusion: In participants who had not ceased PrEP, MPR was high in EPIC-NSW. Poor PrEP adherence, although rare, was more common in participants who were younger, had a recent history of methamphetamine use and/or rectal STI diagnosis at PrEP initiation.

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