

COMPARING ADHERENCE TO ONCE-DAILY AND TWICE DAILY DAA THERAPY AMONG PEOPLE WITH RECENT INJECTION DRUG USE OR CURRENT OPIOID SUBSTITUTION THERAPY: THE SIMPLIFY AND D3FEAT STUDIES

Cunningham EB¹, Hajarizadeh B¹, Amin J^{1 2}, Feld JJ³, Bruneau J⁴, Dalgard O^{5 6}, Powis J⁷, Hellard M^{8 9}, Cooper C¹⁰, Read P^{1 11}, Conway B¹², Litwin AH^{13 14}, Dillon JF¹⁵, Shaw D¹⁶, Bruggmann P¹⁷, Gane E¹⁸, Fraser C¹⁹, Marks P¹, Lacombe K²⁰, Matthews GV^{1 21}, Dore GJ^{1 21}

¹The Kirby Institute, UNSW Sydney, Sydney, Australia, ²Faculty of Medicine and Health Sciences, Macquarie University, Sydney, Australia, ³Toronto General Hospital, Toronto, ⁴Centre Hospitalier de l'Université de Montréal, Canada, ⁵Akershus University Hospital, Oslo, Norway, ⁶Institute of Clinical Medicine, University of Oslo, Oslo, Norway, ⁷South Riverdale Community Health Centre, Toronto, Canada, ⁸The Burnet Institute, Melbourne, Australia, ⁹Department of Infectious Disease, The Alfred Hospital, Melbourne, Australia, ¹⁰Ottawa Hospital Research Institute, Ottawa, Canada, ¹¹Kirketon Road Centre, Sydney, Australia, ¹²Vancouver Infectious Diseases Center, Vancouver, Canada, ¹³Montefiore Medical Centre, New York, United States, ¹⁴Albert Einstein College of Medicine, New York, United States, ¹⁵Ninewells Hospital and Medical School, University of Dundee, Dundee, United Kingdom, ¹⁶Royal Adelaide Hospital, Adelaide, Australia, ¹⁷Arud Centres for Addiction Medicine, Zurich, Switzerland, ¹⁸Auckland City Hospital, Auckland, New Zealand, ¹⁹Coolaid Community Health Centre, Victoria, Canada, ²⁰Inserm UMR-S1136, Sorbonne Université, Hôpital Saint-Antoine, Paris, France, ²¹St Vincent's Hospital, Sydney, Australia.

Background: Treatment adherence has been a concern regarding the scale-up of HCV DAA therapy in people who inject drugs. This study investigated treatment adherence and associated factors among people with recent injecting drug use or current opioid substitution therapy (OST) and compared once-daily to twice-daily DAA therapy.

Methods: SIMPLIFY and D3FEAT are international, open-label, single-arm, multicentre studies which recruited participants with recent injecting drug use (previous six months; SIMPLIFY, D3FEAT) or current OST (D3FEAT) between March 2016 and February 2017 in eight countries (25 sites). Participants received sofosbuvir/velpatasvir (once-daily; SIMPLIFY) or paritaprevir/ritonavir, ombitasvir, dasabuvir (twice-daily; D3FEAT) ±ribavirin for 12 weeks administered in one-week electronic blister-packs which recorded the time and date of each dose. We evaluated percent adherence (doses taken divided by doses expected) and non-adherence (<90% adherent) using logistic regression and generalised estimating equations with comparisons of adherence between the dosing patterns.

Results: Among 190 participants (once-daily n=103, twice-daily n=87), 97% in both groups completed treatment with a median adherence of 92%, which was higher among the once-daily population (94% vs 87%, p=0.005). Overall, 40% of participants (n=76) were considered non-adherent with recent stimulant injecting (odds ratio [OR] 2.48, 95% confidence interval [CI] 1.28-4.82) and unstable housing (OR 2.18, 95% CI 1.01-4.70) associated with non-adherence. Participants receiving twice-daily dosing were more likely to be non-adherent (OR 2.81, 95% CI 1.47-5.36). Adherence significantly decreased over the course of therapy in both the once-

($P < 0.001$) and twice-daily ($P < 0.001$) groups. Despite non-adherence, SVR was high with once-daily (94%) and twice-daily (91%) therapy. SVR was lower but not significant in the non-adherent population (89% vs. 95%, $P = 0.174$).

Conclusion: This study demonstrated lower adherence among participants receiving twice-daily dosing compared to once-daily. Treatment response remained high, demonstrating that DAA therapy has some “forgiveness” to non-adherence.

Disclosure of Interest Statement:

The authors recognise the considerable contribution that industry partners make to professional and research activities. We also recognise the need for transparency of disclosure of potential conflicts of interest by acknowledging these relationships in publications and presentations.