

Incidence of fatal and non-fatal drug overdose among people with a history of opioid dependence increase in the first 4 weeks of treatment cessation: Retrospective linkage study

Nicola R Jones¹, Matthew Hickman², Sarah Larney, Suzanne Nielsen, Robert Ali, Timothy Dobbins, David A. Fiellin, Louisa Degenhardt¹

¹: National Drug and Alcohol Research Centre, University of NSW, Sydney NSW 2052, Australia, ²: Population Health Sciences, Bristol Medical School, University of Bristol, Bristol BS2 8DZ, UK

Presenter's email: nicola.jones@unsw.edu.au

Introduction and Aims: There are critical periods of increased mortality risk during opioid agonist treatment (OAT). Using a cohort of opioid dependent people with a history of OAT, comparisons between the incidence of non-fatal drug overdose (NFOD) hospital separations and fatal drug overdose (FOD) were made at these critical periods.

Design and Methods: Retrospective cohort study of people with a history of OAT using state-wide linked New South Wales (NSW) data. The incidence of NFOD hospital separations was defined according to ICD-10-AM codes. Fatal overdose was determined from the combination of the ICD-10-AM codes recorded in the underlying cause of death and contributory codes involving the same drugs as NFOD. Rates were calculated using Poisson generalized estimating equations adjusting for sex, age, calendar year, and recent events such as: incarceration; mental health outpatient visits; and hospitalisations involving substance use, self-harm and behavioural disorders.

Results: Opioid NFOD incidence was highest in the first 4 weeks in or out of treatment, with a crude rate (combined) of 39.0 per 1000PY; 95%CI: [35.9-42.4] and lowest in the remainder time in OAT, crude rate of 6.2 per 1000PY; 95%CI: [5.8-6.6]. Opioid FOD was lowest when retained on OAT; the rate of FOD was 13 times higher in the first 4 weeks out of OAT compared to long term treatment retention (5+ weeks), incidence rate ratio (IRR) of 12.99 per 1000PY; 95%CI: [10.58-15.93]. In the 5+ weeks out of treatment women had a 25% lower rate of opioid FOD than men, adjusted IRR of 0.75; 95%CI: [0.61-0.91], however for the same period there was no evidence of an association for opioid NFOD between genders.

Discussions and Conclusions: The incidence of NFOD shares a similar pattern to opioid FOD for all treatment periods except for the first 4 weeks in treatment: there is a high risk of non-fatal overdose in the first 4 weeks of treatment, but the fatalities are low. Recent incarceration and hospitalisations involving self-harm, substance use and mental and behavioural disorders are important confounders and could be used to form a strategy for intervention while still in treatment.

Disclosure of Interest Statement: LD has received untied educational grant funding from Indivior, Mundipharma, Seqirus and Reckitt Benckiser.

Keywords Opioid dependence, non-fatal and fatal drug overdose, opioid agonist, data linkage