Modafinil and mirtazapine in the management of amphetamine withdrawal

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Background: Amphetamine withdrawal is not clinically severe, but can be difficult. No medication is of demonstrated effectiveness in alleviating amphetamine withdrawal. The mainstay of treatment is supportive care and counselling. Medications used routinely during inpatient management of amphetamine withdrawal at Drug and Alcohol Services South Australia (DASSA) include benzodiazepines (diazepam) and antipsychotics (olanzapine). Modafinil and mirtazapine have also been used (off-label) for specified indications.

Description of model of care/intervention: A retrospective case note review was undertaken to compare the effects of modafinil (39 episodes) or mirtazapine (49 episodes) with treatment as usual (165 episodes). Modafinil is prescribed for clients with daytime somnolence. Mirtazapine is provided for clients who have a current prescription on admission. Both medications are provided in conjunction with the standard regimen of benzodiazepines and antipsychotics.

Effectiveness: Compared to treatment as usual, the addition of modafinil is associated with increased likelihood of completion of the withdrawal episode, and the prescription of mirtazapine is associated with a decreased likelihood of completion. The effects of modafinil and mirtazapine on somnolence and withdrawal severity were not able to be assessed using the information that is routinely recorded in case notes.

Conclusion and next steps: Modafinil may be beneficial for some clients during amphetamine withdrawal. Further research is desirable to assess the effect of modafinil on somnolence and withdrawal severity, to identify who is likely to respond to modafinil, and to investigate longer-term outcomes. The dose and timing of administration of mirtazapine may be important to avoid negative effects on retention.

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