

How feasible is contingency management-based tobacco treatment for pregnant women with substance use concerns?

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Introduction and Aims: Pregnant women who use other substances are a high-priority group characterised by disproportionately high rates of tobacco smoking. To address this, a remotely delivered tobacco treatment that employed contingency management, other cognitive behavioural strategies and nicotine replacement therapy (NRT) was developed and its feasibility assessed.

Design and Methods: A single-arm pre-post design pilot feasibility study was conducted across three tertiary referral antenatal services that support substance use in pregnancy in New South Wales and Victoria. Women were offered financial incentives contingent on carbon monoxide (CO) verified smoking cessation or reduction, NRT and cognitive behavioural counselling from enrollment till birth. The primary outcome measure was feasibility.

Results: Almost half the 101 referrals enrolled in the program. Mean age was 31.3 years (± 6.2), 23% (10/46) were of Aboriginal or Torres Strait Islander background, mean gestational age was 22.3 weeks (± 5.8). Baseline median cigarettes smoked/day was 10 (IQR 6-20) and CO ppm 15 (IQR 8-26). Retention to 12-week postpartum follow-up was just under 50%. Approximately two-thirds provided >1 CO verification for financial incentives and used NRT for ≥ 2 weeks. Half attended ≥ 1 counselling session. Approximately two-thirds self-reported abstinence at birth, although this fell substantially by 12-weeks postpartum. Median cigarettes smoked/day reduced significantly from baseline to last contact ($p < 0.001$). Women who stopped smoking had education beyond high school ($p < 0.02$), completed more CO samples ($p < 0.001$) and earned greater incentives ($p < 0.001$). Median ratings for the interventions helpfulness to stop smoking were 8 (IQR 7-10) and for convenience 8 (IQR 7-9).

Discussions and Conclusions: This intensive tobacco treatment appears feasible and acceptable. Further study will determine whether multi-faceted support is effective for improving future smoking prevalence.

Implications for Practice or Policy: Tobacco treatment is lacking for pregnant women with substance use problems. Scale-up would require dedicated mobile phone software and extension into the postpartum period. An economic evaluation is also required.

Disclosure of Interest Statement: The study was funded by a competitive grant from the NSW Health Translational Research Grant Scheme and MAJ was funded to complete the study by a NSW Health PhD scholarship. The authors have no conflict of interest to declare.