

An evaluation of opioid replacement pharmacotherapy in an urban Aboriginal Health Service

Abstract

Objective: This study aimed to evaluate the opioid replacement pharmacotherapy at Winnunga Nimmityjah Aboriginal Health Service (Winnunga) in the Australian Capital Territory.

Methods: Existing and new adult patients at Winnunga who were receiving opioid replacement pharmacotherapy were recruited. Twenty-one of 30 eligible patients participated in this cohort study. The Brief Treatment Outcome Measure was administered to patients twice with an interval of at least three months. Primary outcome measures were retention rate in the program and self-reported heroin use.

Results: Eighty-one per cent (17/21) of patients remained in treatment at three months. Median self-reported heroin use for existing patients was 0 days/month at initial interview and follow-up (95% CI 0-1). There was no significant difference between self-reported heroin use at initial and follow-up interview (paired Wilcoxon test, $R=10$, $\alpha=0.05$). Mean self-reported heroin use was 1.5 days/month at initial interview and 2.4 days/month at follow-up.

Conclusion: The retention rate of 81% and low levels of heroin use suggest that opioid replacement pharmacotherapy at Winnunga is comparable to the outcomes of mainstream treatment programs.

Implications: Opioid replacement pharmacotherapy is beneficial to opioid-dependent Aboriginal people in urban settings. Access to this treatment in culturally appropriate settings needs to be expanded.

Key words: opioid, pharmacotherapy, heroin, Aboriginal and Torres Strait Islander.

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Illicit drug use, particularly heroin, is an important health and social issue in Australia that continues to attract public attention. Heroin use remains an important cause of death and disability in Australia, particularly among 15-44 year-old males,¹ despite the decrease in opioid-related deaths since 2000.² Previous studies have consistently shown that Aboriginal and Torres Strait Islander people use illicit drugs at higher rates than the general population.³⁻⁵ Studies conducted in urban Aboriginal Health Services (AHSs) have shown that illicit drug use among Aboriginal and Torres Strait Islander people is strongly associated with social problems and poor health.⁶⁻¹⁰ In the Australian Capital Territory (ACT), a survey of older Indigenous people suggested that illicit drug use had become the foremost problem in the local Aboriginal community.¹¹ Although this research has described the problems and generated strategies to approach these issues, there has been very limited evaluation of existing programs that aim to address this problem.

Opioid replacement therapy has been widely used in Australia to reduce harm associated with heroin and other opioid use. Its effectiveness was evaluated in a variety of settings as part of the three-year National Evaluation of Pharmacotherapies for Opioid Dependence (NEPOD) that concluded in 2001.¹² The NEPOD trials showed similar efficacy for various treatment options

including methadone maintenance therapy, levo-alpha-acetylmethadol (LAAM) and buprenorphine, provided people remained in treatment.¹³⁻¹⁷ The most important outcome measures were retention in maintenance treatment and decrease in heroin use. Complete abstinence was only achieved by 25% of those who remained in treatment. The overall retention rate was 44% at six months.¹² The key NEPOD recommendations were that diverse treatment options should be promoted, retention could be improved by addressing psychological comorbidities and that general practitioners should be encouraged to be more involved in treatment.

Winnunga Nimmityjah Aboriginal Health Service (Winnunga) provides primary health care including general practice services and support programs for mental health problems to Aboriginal and Torres Strait Islander people in the ACT and surrounding regions. Winnunga has offered opioid replacement pharmacotherapy since 1999 to patients who are opioid-dependent. As in other urban Indigenous communities,^{18,19} there was ambivalence to the introduction of harm minimisation strategies with many people supporting abstinence models to address drug addiction. Community support for opioid replacement pharmacotherapy was achieved through discussions between the Winnunga Board, other influential community leaders and the Winnunga staff involved.

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In their needs analysis of Aboriginal illicit drug users in the ACT, Dance et al.²⁰ suggested that there was a need for local health professionals involved in opioid replacement therapy to educate the Aboriginal community about the effectiveness of methadone maintenance treatment. This is required to counter misconceptions about methadone among Indigenous illicit drug users, including that methadone is more addictive than heroin, that insufficient doses are given to prevent withdrawal, that it causes tooth decay and that it is part of a government strategy to control Indigenous people.²⁰ The Winnunga staff has observed that the opioid pharmacotherapy program at Winnunga has been beneficial for many Aboriginal people who are dependent on opioids. However, the outcomes of the program have not been formally evaluated. Such an evaluation would assist local health professionals to meet this need to inform and promote opioid replacement pharmacotherapy to Aboriginal community leaders.

The aims of this study were to compare the outcome of opioid replacement therapy at Winnunga with that achieved in the NEPOD trials and to inform a locally identified need to educate the local Indigenous community about opioid replacement pharmacotherapy.

Methods

The design was a cohort study of current and new opioid-dependent Winnunga clients receiving opioid pharmacotherapy during the recruitment period. Recruitment and follow-up occurred between November 2004 and August 2005. The patients were actively recruited by telephone, word of mouth and opportunistically when attending Winnunga.

Eligibility

To be eligible for the study, participants had to be: aged 18 years or older; capable of giving informed consent; assessed as opioid-dependent by a Winnunga doctor; and be receiving, or start during the recruitment period, opioid replacement pharmacotherapy (methadone or buprenorphine) through Winnunga or the ACT Health Alcohol and Other Drugs Program (where treatment initiation occurred at the time of the study).

Data collection

The Brief Treatment Outcome Measure (BTOM)²¹ was used to assess the effectiveness of opioid replacement pharmacotherapy offered at Winnunga. The BTOM has been designed as a short evaluation instrument for routine use in New South Wales (NSW) treatment programs for opioid dependence. The BTOM collects data on drug and alcohol use, blood-borne virus risk, social functioning, self-reported health and current and previous drug and alcohol treatment.

The primary outcome measure of the BTOM is self-reported heroin use. This measure has been shown to be as reliable as urine drug screens in other Australian studies, including in prison, provided it is clear that the information will not affect treatment.^{17,22,23} The Winnunga health workers were trained

and/or experienced in the use of the BTOM before the start of recruitment.

Twenty-one eligible participants were recruited into this study from an estimated total of 30 eligible patients. Patients were informed that their answers to the questionnaire would not affect the treatment they received at Winnunga. After obtaining informed consent, the BTOM was administered by a Winnunga health worker or by the principal researcher with at least one Winnunga health worker present. Referrals to Winnunga services were made for investigation and management of any health problems that were identified during the interviews.

The BTOM was then re-administered after an interval of at least three months. Follow-up was achieved by telephoning clients to organise interviews or opportunistically during visits to Winnunga or in the Belconnen Remand Centre. The interval between the baseline and follow-up BTOM was 3-7 months. Multiple attempts were made to follow-up each person. Winnunga health workers who were not directly involved in the individual's pharmacotherapy administered the follow-up questionnaires. Participants were given a \$20 honorarium for their time completing each interview.

Data analysis

Data from the questionnaires were entered into an Excel spreadsheet. Retention rate was calculated by determining the number of patients in treatment at the beginning of the recruitment period and the end of the follow-up period. The new clients who were enlisted were reassessed after at least three months. There was insufficient sample size to warrant a more detailed analysis of retention, such as Kaplan Meier survival analysis used in most of the NEPOD studies.¹⁵⁻¹⁷

The BTOM records self-reported illicit drug use as the number of days each drug is used in the previous month. Comparison of usage at initial interview and follow-up was possible. Both the mean and median heroin use were calculated. As the results of heroin use were non-parametric, it was decided to use 95%

Table 1: Study participants, Winnunga, characteristics at enrolment (n=21).

	n	%
Aboriginal	19	90
Male	16	76
Route of heroin administration		
Inject	16	76
Non-injecting only	5	24
Employment status		
Employed or student	2	10
Unemployed or pension	17	81
Other	2	10
Social setting		
Live with partner/family/relatives	13	62
Lives alone (with or without children)	5	24
Prison/ Remand Centre	3	14
Other illicit drugs		
Cannabis (daily)	13	62
Previous methadone/buprenorphine therapy	14	67

confidence intervals (CIs) for the median and a paired Wilcoxon test to compare heroin use at baseline and follow-up. Separate analyses of methadone and buprenorphine treatments were not performed in this study as there were not enough subjects.

Ethics

Ethical approval was granted by the Human Research Ethics Committee at James Cook University and the research was approved by the Winnunga Board, which comprises community representatives. Informed consent was required from each person prior to the first administration of the BTOM. The study met National Health and Medical Research Council (NHMRC) guidelines for ethical conduct in Aboriginal and Torres Strait Islander health research.²⁴

Results

Twenty-one of 30 eligible clients agreed to take part. Ninety per cent of participants were Aboriginal. The mean age (standard deviation) of participants was 26.6 (4.5) years. Most were unemployed or on a pension and injected heroin. Patient characteristics are shown in Table 1.

At initial interview, three participants were newly started on opioid replacement pharmacotherapy. For the other 18 participants, the mean duration of treatment was one year $\pm$ 0.9 years (range 21 days to 3.1 years).

Of the 21 participants recruited into the study, 18 were followed up. Of these, 17 remained in treatment at follow-up of at least three months. This represented a retention rate of 81% (17/21). The remaining participant who was followed up was in jail and had received in-patient withdrawal management. Of the three participants who could not be contacted for follow-up, one was in jail in Queensland, one had left the ACT and one could not be found. It is possible that the person in prison remained in treatment but this could not be verified. It is assumed that those who could not be contacted had relapsed to regular heroin use. The mean

duration between initial interview and follow-up was 149 days (range 97–220 days).

There were low levels of self-reported heroin use among those on maintenance treatment, at both initial and follow-up interviews (see Figure 1). The median heroin use at baseline was 0 days/month (95% CI 0–1; range 0–15). The median heroin use at follow-up was 0 days/month (95% CI 0–1; range 0–30). There was no significant difference between the median heroin use at the initial interview and at follow-up using a paired Wilcoxon test ($R=10$, $\alpha=0.05$). There were high levels of heroin use by the three new patients before the start; however, there were insufficient numbers to allow statistical analysis. All of the subjects smoked cigarettes and cannabis use was common. There was low use of other drugs. These data are shown in Table 2.

Other treatment reported by subjects at initial interview ($n=21$) included counselling (52%) and support/case management (43%). Fifteen of the participants were receiving methadone and six were receiving buprenorphine. The mean (SD) daily methadone dosage at initial interview was 50.9 mg (29.4 mg) and at follow-up was 67.5 mg (22.5 mg). The mean (SD) daily buprenorphine dosage at initial interview was 15 mg (6.7 mg) and at follow-up was 14.0 mg (11.7 mg).

Discussion

The retention rate for Winnunga patients receiving opioid replacement pharmacotherapy during the seven-month recruitment period of this study was 81%. The retention rate in the individual NEPOD studies varied from 35% at three months for buprenorphine¹⁶ to 93% for LAAM at six months.¹⁷ The small sample size in this study means that there is insufficient power to conclude that the retention rate is significantly higher than the retention rates reported in individual NEPOD studies.

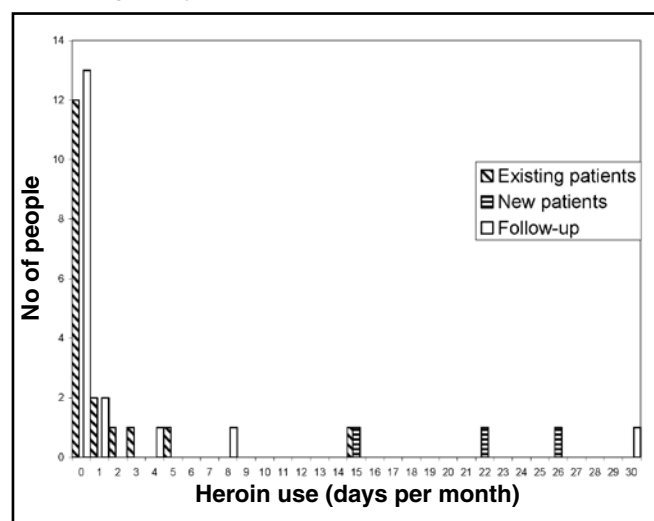
Table 2: Self-reported drug use of study participants at Winnunga AMS at initial interview and three-month follow-up.

Drug use	Initial		Follow-up
	Maintenance (n=18)	New (n=3)	(n=18) ^a
	Mean (SD)	Mean (SD)	Mean (SD)
	(No. days per month)	(No. days per month)	(No. days per month)
Heroin	1.5 (3.6)	21.0 (5.6)	2.4 (7.2)
Other opioids	1.2 (3.8)	0 (0)	1.0 (3.4)
Cannabis	18.8 (13.6)	27.3 (4.6)	14.4 (13.9)
Amphetamines	1.2 (3.5)	1.7 (2.1)	0.6 (1.3)
Cocaine	0 (0)	0.3 (0.6)	0 (0)
Tranquillisers	4.1 (9.7)	12.3 (15.7)	3.8 (9.7)
Alcohol	2.6 (7.1)	1.7 (1.5)	1.8 (7.0)
Cigarettes	30 (0)	30 (0)	30 (0)
No. of types of illicit drug classes used in last month	1.7 (1.4)	3.7 (1.2)	1.5 (1.1)

Note:

(a) Fifteen on maintenance and three new participants from the initial interviews.

Figure 1: Heroin use at baseline and three-month follow-up among study participants.



However, the retention rate suggests that the opioid replacement pharmacotherapy at Winnunga is effective at retaining patients in treatment. Trials in primary care and clinic settings in other countries have reported retention rates ranging from 20% at 17 weeks for low-dose methadone²⁵ to 68% for buprenorphine at 18 weeks.²⁶ The retention rate is the most important outcome because the other outcomes are dependent on people remaining in treatment and there is a high rate of relapse to regular heroin use in those who leave maintenance treatment while remaining in the same social situation.²⁷

In this study, the mean self-reported heroin use was 1.5 days per month at initial interview and 2.4 days per month at follow-up interviews among subjects on methadone and buprenorphine maintenance treatment. These levels are comparable with levels reported in the recent NEPOD studies, where mean self-reported heroin use ranged from 1.5 days/month in people receiving LAAM,¹⁷ 4.75 days per month in people receiving buprenorphine¹⁶ and 5.3 days per month in people receiving methadone.¹⁷ There were no clinically relevant differences in heroin use while receiving methadone, buprenorphine or LAAM treatment in the NEPOD studies.¹⁵⁻¹⁷ The doses of methadone and buprenorphine prescribed to patients in this program are variable but generally in the higher dose range used for opioid replacement pharmacotherapy. Flexible and higher dosing has been shown to be important in improving retention rates and lowering heroin use.²⁵

The high retention rate and low level of heroin use suggest the outcomes of opioid replacement pharmacotherapy at Winnunga Aboriginal Health Service are comparable to pharmacotherapy in other general practice and specialist clinic settings. Winnunga provides comprehensive and culturally appropriate health care to patients including social support and mental health services. The high rates of counselling and case management reported in this study are indicative of the model of primary care offered by this service. This supports the NEPOD recommendation that comprehensive primary care is an important adjunct to opioid replacement pharmacotherapy. The findings are consistent with the successful community health service program for Aboriginal heroin users in Adelaide.¹⁹ It is this supportive framework that enables people to achieve the stability required to remain in maintenance treatment.

The main limitation of this study was the selection bias introduced by the recruitment of existing patients on opioid replacement pharmacotherapy. This was done due to the limited number of new clients expected during the recruitment period. This study has been a successful pilot of the use of the BTOM at Winnunga. Ongoing use of the BTOM with all new patients entering opioid replacement pharmacotherapy at Winnunga would allow the evaluation of a cohort of new patients. Such a prospective study would more directly demonstrate the outcomes of this program. Another possibility to improve the power of the study would be to conduct a multicentre trial at Aboriginal Medical Services, which could provide important information about opioid replacement pharmacotherapy for Aboriginal and Torres Strait Islander people.

The high retention rate and low use of heroin demonstrated in this evaluation have been useful to the Winnunga staff when counselling opioid-dependent patients about possible treatment options. This counselling helps to disseminate the potential benefits of opioid replacement pharmacotherapy to opioid-dependent Indigenous people in the local area. Word-of-mouth dissemination by peers of the demonstrated benefits of opioid replacement pharmacotherapy is an effective way to reach this difficult-to-reach group.²⁰ The evaluation of the opioid pharmacotherapy program has also been discussed at the weekly Women's Meeting at Winnunga, which is open to all female community members. This treatment option could also be promoted to the local Aboriginal and Torres Strait Islander community at appropriate community events or, if there was sufficient interest, at a public meeting. The message from this study is that greater use of opiate replacement pharmacotherapy as part of a range of treatment options would benefit opiate-dependent Aboriginal and Torres Strait Islander people in Canberra and similar urban settings throughout Australia.

Implications for public health

This study suggests that opioid replacement pharmacotherapy at Winnunga has comparable retention rates and levels of heroin use to recent Australian trials that were part of the National Evaluation of Pharmacotherapy for Opioid Dependence. The opioid-dependent Aboriginal people in this study achieved low levels of heroin use from opioid replacement pharmacotherapy. This community-controlled Aboriginal Health Service is a suitable venue to provide the comprehensive health care and supportive environment that assist people to move away from heroin use.

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