

The evolving nature of narcotic use in northwestern Ontario

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In our careers, we witness changes in medical practice and disease profiles, but not often in our own backyard. One of the most interesting aspects of doing research in a rural area is the capacity to follow and study a locally developing clinical trend. Such is the case in northwestern Ontario, which has experienced high rates of opioid abuse in the past 10 years.^{1,2}

NARCOTIC USE IN PREGNANCY

Narcotic use in pregnancy has been a noticeable clinical development confronting the nursing and medical staff at the Sioux Lookout Meno Ya Win Health Centre.³ This regional maternity centre provides prenatal services and obstetric services to a catchment area of 28 000 primarily First Nations people.⁴ The services include 400 deliveries annually.

Narcotic use during pregnancy became a clinical issue in early 2009 as clinicians noted an increasing trend.⁵ Rates of narcotic use in pregnancy, measured over 3 consecutive 6-month periods, went from 8.4% to 17.2% and averaged out to 13.0% (Table 1).⁵ Neonatal abstinence syndrome (NAS)

affected 29.5% of these narcotic-exposed pregnancies. The clinical response included development of the nursing and medical expertise for recognition and management of narcotic use in pregnancy and subsequent neonatal withdrawal, when it occurred.⁷ The clinicians also developed an integrated prenatal program, in which routine prenatal care, narcotic management and narcotic ordering took place in a single setting. Male partners were also encouraged to attend to receive addiction services, if needed (30 received treatment in 2012–2013).⁵

Because NAS was a clinical concern, and stressful for affected neonates and families, one of the aims of the integrated prenatal program was to encourage safe narcotic tapering, or weaning, whenever possible, to decrease the incidence of NAS.⁶ The tapering program, using a long-acting morphine, began in January 2012 and contributed to a significant drop in the rates of NAS, without adverse neonatal outcomes.⁶ Rates of NAS in narcotic-exposed pregnancies fell from 29.5% in 2010 to 18% in 2013 ($p < 0.001$). Over a 5.5-year period (2009–2014) data showed a decreasing trend ($p = 0.123$).⁶ The rate of NAS appears to have stabilized

Table 1. Narcotic use in pregnancy over 5.5 years^{3,5,6}

Variable	No. (%)			p value (Jan 2009– June 2014)
	18 mo (Jan 2009–June 2010)	36 mo (June 2010–June 2013)	12 mo (June 2013–June 2014)	
Total births	482	1206	431	
Narcotic exposure	61/482 (13.0)	300/1206 (25.0)	113/431 (26.2)	$p < 0.001$
NAS/all births	21/482 (4.4)	54/1206 (4.5)	23/431 (5.3)	$p = 0.729$
NAS/exposed	18/61 (29.5)	54/300 (18.0)*	23/113 (20.4)	$p = 0.123$

NAS = neonatal abstinence syndrome.
* $p = 0.040$.

at about 20% of narcotic-exposed pregnancies in 2014. Cases of more severe withdrawal (Finnegan scores > 7) requiring consideration of pharmacologic treatment also stabilized at 7% of narcotic-exposed pregnancies. During this time, the clinical burden of disease has increased: daily and intravenous use of narcotics have become the most common user profile, whereas snorting and occasional use once predominated.^{3,5}

COMMUNITY-BASED SUBSTITUTION THERAPY PROGRAMS

In 2013–2014, we began to encounter pregnant patients who had conceived while receiving opioid substitution therapy, and we have begun to follow the outcomes of these pregnancies. These patients, who live in remote northern communities, have benefitted from the recent development of community-based programs for treatment of opioid dependence. Along with culturally appropriate addictions counselling, narcotic substitution therapy with sublingual buprenorphine–naloxone is undertaken.⁸ The buprenorphine is for suppression of opioid cravings, and the naloxone is meant to deter diversion to intravenous use. These holistic addiction treatment programs have developed in 16 of the 30 remote First Nations communities in our region. Substitution therapy with buprenorphine–naloxone has become commonplace, which highlights the extent of the problem with opioid dependence in our region. Community organizations are beginning to partner with local researchers to evaluate such community-based programs, which grow out of a clinical and social imperative with limited funding support. Local researchers have recently partnered with northern communities that have age-adjusted adult addiction rates exceeding 50% to document the effects of such widespread addiction and the success of community-based treatment programs.⁸

Although buprenorphine–naloxone is officially contraindicated during pregnancy because of the theoretical risk of the naloxone component precipitating acute narcotic withdrawal, its use in pregnancy is gradually becoming accepted.⁹ If a patient wishes to conceive, it is optimal to transfer her from buprenorphine–naloxone to the single narcotic component, buprenorphine, but this involves a complex application process to Health Canada and the manufacturer. Patients have often completed most of their pregnancy by the time the

single-component drug is available to them.

The increasing number of women receiving opioid substitution therapy throughout pregnancy is preferable to the vacillation of dosing and withdrawal encountered through access to illicit narcotics. In 2013–2014, we have managed the treatment of 28 women who conceived while receiving opioid substitution therapy, and we will continue to monitor this evolving trend.

CONCLUSION

The opioid abuse epidemic in northwestern Ontario has challenged the communities and the health care system. The response has included many positive developments. First, generalist nurses, physicians and counsellors in our region have developed expertise in the management of narcotic use in pregnancy and subsequent neonatal withdrawal. Second, a team of community members, nurses and physicians has developed unique community programs for culturally appropriate addictions treatment and substitution therapy, resulting in a local capacity to treat narcotic use in pregnancy. Third, rural researchers are conducting ongoing surveillance of the scope of the problem and evaluation of program outcomes, and contributing to an evolving treatment approach. Finally, Ontario's first rural unit for inpatient withdrawal management was established (although it was recently closed because of program cuts).¹⁰

Additional needs remain. It is important that Health Canada recognize the need for robust program support for the unprecedented rates of opioid dependence being encountered. Also, we must address social and psychological needs in remote First Nations communities, which are suffering the effects of decades of intergenerational trauma and are dealing with high rates of addiction.

Competing interests: None declared.

REFERENCES

1. Resolution #09/92: prescription drug abuse state of emergency. Thunder Bay (ON): Nishnawbe Aski Nation. 2009.
2. Dhalla I, Mamdani M, Sivilotti M, et al. Prescribing of opioid analgesics and related mortality before and after the introduction of long-acting oxycodone. *CMAJ* 2009;181:891-6.
3. Kelly L, Cromarty H, Minty B, et al. Narcotic-exposed neonates in a First Nations population in northwestern Ontario: incidence and implications. *Can Fam Physician* 2011;57:e441-7.

4. Dooley J, Kelly L, St Pierre-Hansen N, et al. A rural family physician-managed aboriginal obstetrical program: Sioux Lookout Meno Ya Win Obstetrics. *Can J Rural Med* 2009;14:75-9.
5. Dooley J, Gerber Finn L, Antone I, et al. Narcotic use in pregnancy in northwest Ontario: a 3 year prospective study of an increasing challenge. *Can Fam Physician*. In press.
6. Dooley J, Gerber Finn L, Antone I, et al. Narcotic tapering in pregnancy using long-acting morphine: an 18 month year prospective study in northwest Ontario. *Can Fam Physician*. In press.
7. Kelly L, Minty B, Madden S, et al. The occasional management of narcotic exposure in neonates. *Can J Rural Med* 2011;16:98-101.
8. Katt M, Chase C, Samokhvalov A, et al. Feasibility and outcomes of a community-based taper-to-low-dose-maintenance suboxone treatment program for prescription opioid dependence in a remote First Nations community in northern Ontario. *Journal of Aboriginal Health* 2012;9:52-9.
9. Poon S, Pupco A, Koren G, et al. Safety of the newer class of opioid antagonist in pregnancy. *Can Fam Physician* 2014;60:631-2.
10. Kiepek N, Hancock L, Topozini D, et al. Facilitating medical withdrawal from opiates in rural Ontario. *Rural Remote Health* 2012;12:2193-9.

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