Antenatal Obstetrician Care Among People Who Experience Incarceration in Ontario: A Retrospective Cohort Study

Pregnant people who have experienced incarceration are at increased risk of adverse pregnancy outcomes, including preterm birth and small for gestational age infants.[1] Though research about antenatal care for this population is very limited, it suggests that many do not receive the minimum number of antenatal care visits.[2] Each year, tens of thousands of women experience incarceration in Canada, making these disparities an issue of population health relevant to general practice.

Though there are many models of prenatal care in Canada, current standards of care include specialist referral to an obstetrician for individuals with increased risk of adverse outcomes. In this study, we aimed to compare antenatal obstetrician care for people who experience incarceration and the general population in Ontario, Canada.

We conducted a retrospective cohort study using linked administrative data described in detail elsewhere.[1] We considered all in-hospital deliveries at 20^0 weeks gestational age or later in Ontario between January 1, 2005, and December 31, 2015. We considered the following three groups: (i) *prison pregnancies* (incarceration in a provincial correctional facility during pregnancy), (ii) *prison control pregnancies* (pregnant person that had a history of incarceration), and (iii) *general population pregnancies* (all other pregnancies). Our primary outcome was any care from an obstetrician during pregnancy, excluding known intrapartum care, as defined in the Table. We fit regression models to calculate the odds of obstetrician care and 95% CI. Values were corrected using generalized estimating equations to account for correlation because some participants contributed multiple pregnancies to the dataset.

Compared with general population pregnancies, people were less likely to receive care by an obstetrician during prison pregnancies and prison control pregnancies. This association was true even among pregnancies in which people attended 4 or more antenatal care visits (Table).

Given the risk factor profile and increased risk of adverse pregnancy outcomes in this population,[1] we would expect that pregnant people who experience incarceration would access obstetrician care antenatally at least as often as others in the general population. Our study findings may therefore indicate an unmet need for obstetrician care.

Both system and individual-level barriers to antenatal care may contribute to this disparity.

Patients may not attend appointments due to fears or experiences of stigma and discrimination in health care settings.[3] Lack of transportation and competing social or family interests have also been identified as barriers to accessing health care services among people who have experienced incarceration.[3] Health system level barriers include clinical hours, centralization of specialist care in urban settings, and the absence of specific Canadian guidelines that address the elevated risk of adverse pregnancy outcomes experienced by this population.

Addressing these barriers and meeting the antenatal care needs of people who experience incarceration may require creative solutions and new partnerships between high-risk and low-risk providers. Patients may choose primary care or midwifery models of antenatal care either due to personal preference or because these models are better able to meet some patients' needs, with benefits including team-based care through family practice or care outside the clinical setting, which may be possible through midwifery care. For clinical situations in which obstetrician care is indicated, obstetrician care should be trauma-informed and should recognize and address common challenges for this population regarding antenatal care, including accessibility, stigma and discrimination, and continuity of care with other providers.

Further study is required to understand the antenatal care that is being provided to people who experience incarceration, both while in custody and in the community. Community members, including people with lived experience of incarceration, should be engaged in research

Table. Antenatal care by an obstetrician during pregnancies in people released from provincial correctional facilities in 2010 and in the general population in Ontario between 2005 and 2015, by incarceration exposure[a]

Any antenatal care by an obstetrician[b]		Prison pregnancies N = 626	Prison control pregnancies N = 2327	General population pregnancies N = 1,308,879
In all pregnancies				
	%[c] (95% CI)	76.8% (73.4–80.3)	79.6% (77.6-81.7)	89.1% (89.1–89.2)
	n/N	481/626	1,853/2,327	1,166,400/1,308,879
	Odds ratio unadjusted (95% CI)	0.41 (0.33–0.49)	0.48 (0.42–0.54)	Ref
In pregnancies with 4+ antenatal care visits				
	%[c] (95% CI)	88.5% (85.3–91.6)	87.2% (85.4–89.1)	92.5% (92.4–92.6)
	n/N	360/407	1,514/1,736	1,092,587/1,181,191
	Odds ratio unadjusted (95% CI)	0.62 (0.46–0.85)	0.55 (0.47–0.65)	ref

[a]Prison pregnancies: part of pregnancy overlapped with time incarcerated in provincial correctional facility; prison control pregnancies: no part of pregnancy overlapped with time incarcerated in provincial facility, but pregnant person was released from custody in 2010; general population pregnancies: no history of incarceration identified.

[b]Obstetrician care was defined as OHIP billing by an obstetrician with codes P003, P004, or P005, or any A or K code together with OHIP code 632-677 or 970.

[c]Generated with post-estimation commands to account for correlation between multiple pregnancies.

OHIP: Ontario Health Insurance Plan.

development. By better understanding barriers and opportunities in providing antenatal care, we can improve services and prevent adverse outcomes.

Acknowledgements

This study was supported by ICES, which is funded by an annual grant from the Ontario Ministry of Health and by a Regional Medical Associates of Hamilton Research Scholarship. The authors acknowledge the Ontario Ministry of the Solicitor General, which provided data for the study. Parts of this material are based on data and/or information compiled and provided by the CIHI. However, the analyses, conclusions, opinions, and statements expressed in the material are those of the authors and not necessarily those of CIHI. The analyses, opinions, results, and conclusions reported in this paper are also independent from the other sources that provided data and funding. No endorsement by ICES, the Ontario Ministry of Health, or the Ontario Ministry of the Solicitor General is intended or should be inferred.

Laura Jane McLeod, MD, MSc;[1] Katherine E. McLeod, MPH, PhD;[2] Jessica Liauw, MD, MHSc;[3] Alison Carter Ramirez, MD;[4] Mary Coll-Black, BSc(H), MD;[5] Fiona G. Kouyoumdjian, MD, MPH, PhD[2]

[1]University of Toronto, Department of Obstetrics and Gynaecology, Toronto, ON
[2]McMaster University, Department of Family Medicine, Hamilton, ON
[3]University of British Columbia, Department of Obstetrics and Gynaecology, Vancouver, BC
[4]University of Calgary, Department of Obstetrics and Gynaecology, Calgary, AB
[5]McMaster University, Department of Obstetrics and Gynaecology, Hamilton, ON
Corresponding author: Laura Jane McLeod, laura.mcleod@mail.utoronto.ca

Disclosure statement: The authors have no conflicts of interest to disclose.

Received on October 13, 2022
Accepted on February 15, 2023
Available online on ■■■

REFERENCES

1. Carter Ramirez A, Liauw J, Cavanagh A, et al. Quality of antenatal care for women who experience imprisonment in Ontario, Canada. JAMA Netw Open 2020;3:e2012576.

2. Carter Ramirez A, Liauw J, Costescu D, et al. Infant and maternal outcomes for women who experience imprisonment in Ontario, Canada: A retrospective cohort study. J Obstet Gynaecol Can 2020;42:462–472.e2.

3. Green S, Foran J, Kouyoumdjian FG. Access to primary care in adults in a provincial correctional facility in Ontario. BMC Res Notes 2016;9:131.

J Obstet Gynaecol Can 2023;■(■):■–■

https://doi.org/10.1016/j.jogc.2023.02.013