

Article details: 2019-0195	
Title	Diabetes during pregnancy and perinatal outcomes among First Nations women in Ontario: a population-based cohort study, 2002–2014
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Reviewer 1	Corinne Riddell
Institution	Department of Epidemiology, Biostatistics and Occupational Health, McGill University, Montréal, Que.
General comments (author response in bold)	<p>As reviewed by the authors, diabetes during pregnancy is associated with increased risks to the mother and newborn and differs according to First Nations status. Because diabetes is associated with increased risks, it is important to identify and estimate these risks precisely for First Nations women and other women and examine healthcare utilization, that if underused, may be increased to intervene upon health outcomes and reduce health disparities between First Nations and other women in Ontario.</p> <p>The authors provided a good review of relevant papers across Canadian provinces and present their findings in a clear manner. My main concerns are with regard to the motivation for this research and the methods described:</p> <p>1) The objective of the paper is described as estimating trends over time in adverse outcomes and healthcare utilization for First Nations and non-First Nations women who had diabetes during pregnancy. Given that diabetes is a risk factor for the outcomes examined, I was confused why the analysis looked at trends in these outcomes stratified by diabetes status. Is there an expectation that trends in the outcomes are increasing or decreasing over time among women with or without diabetes during pregnancy? Or is the purpose to see whether the relationship between diabetes and health outcomes is modified by First Nations status? It was not clear to me the motivation for looking at trends in the outcomes stratified by diabetes during pregnancy status.</p> <p><b>This work is part of a collaborative work including the Chiefs of Ontario. The purpose was to see whether the relationship between diabetes and health outcomes is different by First Nations status as stated at the end of the introduction (Objective).</b></p> <p>2) Two of the maternal outcomes include labour induction and Caesarean delivery. These outcomes are different from the preeclampsia and obstructed labour outcomes because we know we want the latter outcome risks to be low, but for induction and CS we want these interventions to be used optimally. The SOGC guideline recommends that labour induction is offered between 38 and 40 weeks' gestation, depending also on each woman's glycemic control and other comorbidities [ref: <a href="https://www.sciencedirect.com/science/article/abs/pii/S1701216316390879">https://www.sciencedirect.com/science/article/abs/pii/S1701216316390879</a>]. Thus, I would like to see at least a discussion of this in the discussion section, or a more careful investigation of labour induction/Caesarean delivery after adjustment for other comorbidities.</p> <p><b>Following your valuable comment we have addressed this in the discussion.</b></p> <p>3) Given that CMAJ is read by a general medical audience, it is worth clarifying why you chose the health outcomes you did on lines 101-104. In particular, we</p>

would expect women with diabetes to have heightened risks of the chosen outcomes, but not all CMAJ readers will know this. As stated in my first comment, it puzzles me why these outcomes were looked at within levels of diabetes status. I think more discussion here would help reduce my confusion.

**As we have noted in our revised manuscript, the outcomes were selected according to the Public Health Agency of Canada's Canadian Perinatal Surveillance System along with consultation with our partners at the Chiefs of Ontario.**

4) The methods rely heavily on the databases housed by ICES, but for readers outside of Ontario who are unfamiliar with these datasets this paper would be improved by making this description clearer. One way to do this is by adding a description of ICES and the used databases in an appendix. For example, see this paper by Walsh et al: <http://dx.doi.org/10.1136/bmj.l4151>, and in particular their appendix "Supplementary methods 1". Another suggestion would be to add a figure that shows "ICES" and then downstream databases that are used as part of the analysis and list the variables that each database brings to the analysis and information on how the databases were linked.

**We thank you for this comment. As noted, this work is part of a larger study of the landscape of diabetes in First Nations people in Ontario. As part of this series of work, we have written a manuscript (to be published shortly in CMAJ Open) to describe the general methods used for the administrative data analyses which provides a listing of all ICES datasets (Reference 20).**

5) There are several factors that may be unequally distributed between First Nation and non-First Nation women that may also be related to the adverse outcome of interest. For example, distance to care, maternal age at birth, and obesity/pre-pregnancy weight. Usually when we use a measure of effect like a risk ratio to compare groups, we are interested in estimated either an associational RR or a causal RR. For RRs comparing race/ethnicities, the causal interpretation is complicated, though recent scholars in this area have made the link between race/ethnicity and historical and present-day injustices to illustrate that the counterfactual being estimated is the situation where those injustices had not occurred. Is it possible to adjust your RR for the variables I mention earlier in the question? How does such an adjustment change the RRs you estimate?

**We appreciate your comment and concerns. We have added to the discussion this limitation. Our analyses are age-standardized, but the lack of data on maternal prenatal exposures and risk factors in health administrative datasets (i.e. smoking, obesity) is a limitation that we acknowledge.**

6) Line 114: While it is common in the public domain to refer to risks as rates, it is more accurate to describe the outcomes of interest as risks and the relative measures as risk ratios. Please make this change throughout the manuscript.

**We have changed the term throughout the manuscript and tables.**

7) General comment about the results: The RR and CIs need to be added to the text, i.e., the results should not be only explained using words.

**This was added.**

8) Can you comment on the geographic differences on where First Nations and non-First Nations women live in Ontario? I don't have a good sense if their access to care would be different as a function of where they live. Can you also specify

the percent living on/off reserve.

**This information is going to be detailed in the Methods manuscript of the collaborative work and have added a comment referring the readers to this manuscript (to be published in CMAJ Open). In 2014, 35.0% of First Nations people were living in First Nations communities (“on reserve”).**

Minor edits:

- It is worth clarifying on line 95 that Type I and II diabetes are captured in this definition of diabetes

- A careful review of grammar and spelling is warranted, as I found numerous small mistakes throughout the manuscript. This is not a complete listing, but some mistakes include:

- line 50 pre-term birth should be “preterm birth”

- line 40: Caesarean deliveries should be “Caesarean delivery”, with the same mistake made in other sentences throughout the manuscript

- line 98: Remove comma after Booth et al.,

**Thank you. We have made these corrections throughout the revised manuscript.**