



# Disparities in Maternal and Newborn Health Across Populations in Canada

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Midwives are in a good position to understand the socio-economic, political, and cultural contexts of vulnerable populations, and could help with obstetrical data collection that would inform policies that affect poor, black, Aboriginal, and immigrant women in Canada.

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## INTRODUCTION

Disparities in maternal and neonatal outcomes among social and racialized groups indicate an unequal distribution of social, economic, and cultural resources or constraints. This article reviews current research on how this unequal distribution negatively affects obstetric outcomes for poor, black, Aboriginal, and newcomer populations within Canada. Health disparity may be defined as a disproportionate burden of disease between groups that is not explained by differences in the underlying health of those groups.<sup>1</sup> Adverse obstetric outcomes can have health consequences during infancy and into adulthood.<sup>2</sup> However, the extent of these outcomes are less clear due to limited research on the various groups of Canadian women.

## DISPARITY BY SOCIO-ECONOMIC STATUS

Most measures of health predict better outcomes as socio-economic status (SES) is increased.

Liu et al. examined adverse neonatal outcomes by median neighbourhood family income in the province of Ontario. Compared with the highest income quintile, the lowest income was significantly associated with small-for-gestational-age neonates [odds ratio [OR] 1.51; 95% CI: 1.46–1.57], low birth weight [OR 1.43; 95% CI: 1.36–1.50], preterm birth [OR 1.17; 95% CI: 1.12–1.23], and stillbirth [OR 1.39; 95% CI: 1.19–1.62].<sup>3</sup> These risks persisted after controlling for individual level confounders, which indicated that adverse outcomes were partly affected by neighbourhood characteristics.<sup>3</sup> Blumenshine et al. systematically reviewed the literature in developed countries for the impact of SES on birth weight, gestational age, and growth restriction.

Ninety-three of 106 studies reported a significant association between some measure of SES (e.g., income, education, occupation class, or area-based measures) and adverse birth outcomes. Outcome differences ranged from 1.1 to 1.5 in more than half of the studies that reported significant odds ratios, rate ratios, or relative risks.<sup>4</sup> The inclusion of neighbourhood measures in this review helped to capture the effect of housing conditions, crime, stress, job opportunity, and service access, which are often aggregated within broader measures of

ethnicity, income, or education.<sup>4</sup>

## DISPARITY BY RACE

Disparity in preterm birth between white and black populations is well documented in the US literature. McKinnon et al. examined these disparities in preterm birth (< 37 weeks) in Canada and the United States with data from singleton live births. In Canada, non-Hispanic black women had a higher rate of preterm birth [8.9%] than that of non-Hispanic white women [5.9%]. This difference persisted after controlling for maternal age, parity, education, and marital status. These findings were similar to US data indicating that 12.7% of infants born to black women were preterm, compared to 8.0% of infants born to white women.<sup>5</sup>

Despite better access to health care in Canada versus the United States, racial disparity still exists. Whether these differences are driven by racial discrimination or other socio-economic determinants needs to be further explored. Auger et al. compared stillbirth rates among Haitians and non-Haitians in the province of Quebec from 1981 to 2010. The stillbirth rate among Haitians was 7.17 per 1,000 births [95% CI: 5.91–8.43] versus 3.96 per 1,000 [95% CI: 3.88–4.04] for non-Haitians. This discrepancy remained after adjustment for maternal age, education, marital status, parity, and decade of study. The risk for stillbirth was specifically higher for Haitians than for non-Haitians when the cause was related to cord prolapse and placental abruption, whereas no differences were found in regard to congenital anomalies.<sup>6</sup> This finding suggested that modifiable factors such as access to emergency care, rather than biological differences may contribute to poor outcomes.

## DISPARITY BY ABORIGINAL STATUS

Health disparities exist between Aboriginal and non-Aboriginal Canadians throughout the lifespan. Auger et al. examined the rates of stillbirth among Inuit and First Nations populations in Quebec from 1981 to 2009 by gestational age and cause.<sup>7</sup> The rate of stillbirth was higher among Inuit [6.8 per 1,000 births] and First Nations [5.7 per 1,000] compared to the rate of stillbirth among non-Aboriginal [3.6 per

1,000] residents. Among Inuit residents, stillbirth was mostly associated with poor fetal growth, placental disorders, and congenital anomalies, while causes related to hypertension and diabetes were more common among First Nations residents. Overall, the gap in stillbirth risks between Aboriginal and non-Aboriginal residents widened in late gestation [28 weeks] and peaked at term [37 weeks].<sup>7</sup> Auger et al. suggested that increased prenatal education and surveillance in late gestation could help reduce stillbirths that may be due to preventable causes.

Smylie et al. reviewed the literature on the infant mortality rates of First Nations, Inuit, and Métis residents in Canada.<sup>8</sup> Estimated infant mortality rates among First Nations (i.e., status Indians on reserve), status Indians off reserve, and Inuit populations ranged from 1.7 to over 4.0 times the overall Canadian rate.<sup>8</sup> No rates were available for Métis or non-status Indians, yet the available data indicated significant inequality despite data limitations.

### **DISPARITY BY COUNTRY OF BIRTH**

In general, equivalent or favourable birth outcomes for foreign-born women compared to Canadian-born women have been reported. The “healthy immigrant effect”—by which individual and country-level processes select for immigrant persons who are healthier and better able to adapt in the receiving country—is often cited to explain these differences.<sup>9</sup> Vang completed a population-based study comparing neonatal (0 to 27 days) and postneonatal (28 to 364 days) mortality rates from 1990 to 2005 among immigrants and nonimmigrants in Canada. Overall, immigrants had lower rates of neonatal and postneonatal mortality than Canadian-born women. However, when migrant subgroups were accounted for, the adjusted risk of neonatal mortality was greater for migrants from sub-Saharan Africa [hazard ratio [HR] 1.32, 95% CI: 1.05–1.66], Haiti [HR 2.29, 95% CI: 1.90–2.76], non-Spanish-speaking Caribbean countries [HR 1.38, 95% CI: 1.01–1.89], and Pakistan [HR 1.87, 95% CI: 1.31–2.68] than for Canadian-born women.<sup>9</sup>

Whereas the healthy immigrant effect found here is consistent with adult research and seems to exist for the Canadian-born offspring of migrants, the disparities found for certain migrant groups

indicated barriers to postpartum care.<sup>9</sup> Kandasamy et al. compared the rates of preterm birth (< 37 weeks), low birth weight (< 2,500 g) and cesarean birth of refugee and nonrefugee women at a single hospital in Toronto, Ontario, from 2008 to 2010.

Overall, rates of adverse outcomes were similar for these two populations. However, subgroup analyses of multiparous women revealed that refugee women had a higher rate of cesarean birth [36.5%] compared to that of nonrefugee women [22.9%]. The rate of low-birth-weight infants was also increased [1.5 times] for refugee women compared to nonrefugee women. Kandasamy et al. found that refugee women were more likely to be HIV positive, to experience delays in prenatal care, and to report social isolation.<sup>10</sup> These findings indicate that the differences in outcomes may be partly attributable to the social stressors of migrating to a new country in addition to facing racialized inequalities.

### **ORIGINS OF HEALTH DISPARITY**

Various theories have been developed to help understand how the disparities among poor, black, Aboriginal, and immigrant women are generated. Within the framework of “social determinants of health,” daily living conditions are found to influence health across the lifespan.<sup>11</sup> These living conditions tend to be imposed by food security, employment opportunities, education, housing, and access to social or health services. An unequal distribution of these determinants often results from the underlying socio-political structures that place individuals within a given environment.<sup>1</sup>

Rubin explained that stress related to low SES may cause physiological changes that alter maternal and infant susceptibility to illness.<sup>2</sup> Life-course models show that stressors build up over the maternal lifetime and affect health at birth, whereas developmental-origin models show that stress-related exposures in utero result in adverse outcomes later in life.<sup>2</sup>

In regard to disparities caused by race, Nestel's research results echoed those of other research showing that race persists as an indicator of health even after other factors are controlled for.<sup>12</sup> Discrimination fits into the psychosocial model described by Rubin, wherein overt, systemic, or internalized racism inflicts chronic stress that leads

to physiological changes.<sup>2</sup> Despite increases in the quality and accessibility of obstetrical care in Canada, maternal and neonatal outcomes are persistently varied by social and racial differences.

### **DETERMINANTS FOR ABORIGINAL PERSONS**

Aboriginal groups in Canada consist of First Nations, Inuit, and Métis persons as defined by the Canadian Constitution Act, 1982.<sup>13</sup> Colonial practices and the imposition of residential schools appropriated Aboriginal land and affected Aboriginal languages, socio-cultural resources, and systems of health practice.<sup>14</sup> Halseth categorized determinants as distal (e.g., political and historical), intermediate (e.g., community infrastructure and resources), and proximal (e.g., health behaviours and social environment).<sup>15</sup>

Firestone et al. identified some of these determinants in a respondent-driven sample among self-identified First Nations people in Hamilton, Ontario, between 2009 and 2010. In their sample, 78% earned less than \$20,000 annually and 70% lived in the lowest income quartile.<sup>16</sup> Crowded housing, chronic disease, and rates of emergency department use were increased compared to the overall sample.<sup>15</sup> While the relationships between factors such as poverty and health are multifaceted, the lack of self-determination for Aboriginal communities is often reported as a strong determinant.<sup>16</sup> For example, inappropriate health care is evidenced by mainstream health systems that reflect a medicalized rather than a holistic approach to well-being.<sup>16</sup>

Without self-governance or even the inclusion of Aboriginal stakeholders in policy, the marginalization of this group is reinforced. A current issue with insurance coverage is that many self-identified Aboriginals are not legally recognized as status Indians, which excludes them from certain provincial and federal benefits.<sup>13</sup> Non-Aboriginals, most Métis, off-reserve Aboriginals, and non-status Indians receive health services from provinces or territories. Noninsured health benefits are available to cover services not covered by provincial and territorial plans, but they are exclusive to registered First Nations and Inuit persons. The federal First Nations and Inuit Health Branch has initiated valuable community-based programs for First Nations and Inuit persons living

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on-reserve.<sup>13</sup> An extension of these programs for non-status Indians or off-reserve Aboriginals may help to ameliorate the growing disparities being reported in more-urban settings.

### **DETERMINANTS FOR FOREIGN-BORN PERSONS**

Canadian research has supported the finding of similar or better health outcomes for foreign-born women versus Canadian-born women. However, disparities may be found when country of origin, migrant class (i.e., immigrant, refugee, or asylum seeker), duration in the receiving country, and other stressors related to migration are considered.<sup>17</sup> In Canada, the Interim Federal Health Program provides limited and temporary health coverage to refugee claimants and certain protected persons until they are eligible for provincial or territorial coverage. Immigrants face a waiting period of up to three months before they are eligible for public coverage from their province or territory.<sup>18</sup>

In a retrospective case study in Montreal, Quebec, Jarvis et al. examined the implications for uninsured women during pregnancy. Overall, uninsured women presented late for prenatal care, were less likely to have appropriate screening tests done, and more likely received inadequate prenatal care compared to their insured counterparts.<sup>19</sup>

In a systematic review, Higginbottom et al. discussed the experiences of immigrant and refugee women in Canada from conception to six months post partum. Although the appropriate services were usually available to these women, access to these services were challenged by lack of awareness of services, lack of support in navigating the system, and discordant expectations between women and

their care providers.<sup>20</sup> Other studies cite language, social isolation, transportation, and confusion on how to access services as barriers to care.<sup>21</sup> In addition, cultural beliefs often influence the type of care management that an individual will accept or seek out.<sup>17</sup> Thus, understanding the socio-cultural context of newcomers will help care providers ensure that newcomer women are referred to the most useful services.

## STRATEGIES MOVING FORWARD

Despite the need for systemic interventions, many policies to date have focused on promoting behavioural health. Smoking and weight gain have a significant impact on perinatal outcomes, and as these adverse health behaviours are largely a result of living in a disadvantaged environment, they are, not surprisingly, found among socially or economically disadvantaged groups.<sup>22</sup> Mantoura suggested that addressing differences in SES would help alter the effects of social stratification [i.e., resource distribution], vulnerability [i.e., exposure to different health risks based on stratification], and the consequences of poor health [i.e., reinforcement of stratification owing to illness].<sup>1</sup>

Health care providers are able to deliver “culturally safe” care when they reflect on how their values, especially compared to those held by individuals from a different culture, may affect that care.<sup>23</sup> Overall, research shows that health outcomes and client satisfaction are improved when culturally competent education has been implemented.<sup>23</sup>

In regard to policy initiatives, Allan and Smylie discussed promising responses to colonial policies, such as “cultural safety training,” an increase in the number of Aboriginal care providers, and the inclusion of Aboriginal client navigators within the health care system.<sup>24</sup> A recent example of this type of response is the Ontario government’s announcement of an investment of up to two million dollars in the development of Aboriginal midwifery programs in five regions of the province.

Aery discussed feasible practices that have been implemented to improve health care access for immigrant and refugee women in Canada. The key practices included mobile clinics, outreach programs in the workplace, and programs devoted

to language and cultural brokering within the health care system.<sup>25</sup>

Interprofessional collaboration at the local, provincial, and federal levels will be needed to effectively address disparities in obstetric outcomes. Care providers such as midwives are in a good position to understand the socio-economic, political, and cultural contexts that women present. Local engagement of midwives to identify barriers to care would help future initiatives meet diverse needs. Further, research to improve obstetric data collection, especially among vulnerable populations, would inform policies that affect poor, black, Aboriginal, and immigrant women in Canada.

## ACKNOWLEDGEMENTS

I would like to thank my course instructor, Bridget Lynch, RM, MA, for providing guidance and feedback during the development of this paper.

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