

**Access Barriers Among Indigenous Women Seeking Prenatal Care in Canada: A
Literature Review**

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ABSTRACT

Introduction: Many expecting Indigenous women suffer from disproportionately high risks and adverse outcomes relative to non-Indigenous women when seeking adequate prenatal care due to access barriers in Canada's healthcare system.

Objective: The purpose of this literature review was to identify the barriers Indigenous women face when accessing prenatal care and to investigate programs and possible modifications to the health care system to improve prenatal care access for Indigenous women. The last objective was to determine if utilizing physician assistants may act as a potential solution to improving access to prenatal care for Indigenous women.

Methods: A literature search using PubMed, Scopus, and CINAHL databases was performed using key terms pertaining to access barriers to prenatal care among Indigenous women in Canada. Five articles were found to meet the inclusion criteria and were analyzed in this literature review.

Results: Three studies explored the challenges that Indigenous women experience when seeking prenatal care in Canada. Two studies investigated potential programming or system modifications to improve safe access to prenatal care among Indigenous women. Limited research was found regarding the use of physician assistants providing prenatal care among Indigenous women in Canada.

Conclusion: The barriers to prenatal care among Indigenous women identified in this literature review fit under the social determinants of health, including transportation and geographical location, social support networks with family and providers, and lack of cultural awareness and understanding from providers. Strategies to improve access to prenatal care among Indigenous women included an interdisciplinary team using a holistic approach to provide culturally safe care to Indigenous women.

INTRODUCTION

Prenatal Care

Prenatal care is essential to ensuring a safe and healthy pregnancy among women. According to the Public Health Agency of Canada, 58% of women receive the majority of their prenatal care from an obstetrician, 34% receive care from a family physician and 6% receive prenatal care from a midwife. (1) The standard guidelines for prenatal care screening according to the Society of Obstetricians and Gynecologists of Canada (SOGC) suggest visits with healthcare providers every 4 to 6 weeks in early pregnancy, every 2 to 3 weeks after 30 weeks' gestation and every 1 to 2 weeks after 36 weeks' gestation. (2) Burns et al state that the primary "goals of prenatal care include defining the health status of the mother and the fetus, determining the gestational age of the fetus and monitoring fetal development, identifying women at risk for complications, and providing appropriate education." (3) The World Health Organization (WHO) (4) defines antenatal care as the care provided by skilled health care professionals to pregnant women to ensure the best health conditions for both mother and baby during pregnancy.

Women who receive early adequate prenatal care regularly throughout pregnancy generally have better outcomes compared to those who receive inadequate prenatal care. (2) The Journal of Obstetrics and Gynaecology Canada (5) defines adequate prenatal care as consisting of at least 6 visits with a health care professional. Heaman et al explain that if prenatal care is adequate, it has the potential to reduce the risk of perinatal illness, disability, and death by identifying and reducing risks, treating medical conditions, and helping women to address behavioural factors that contribute to poor outcomes in pregnancy. (2) Inadequate prenatal care may lead to adverse pregnancy outcomes, such as preterm birth and low birth weight, or more severely, result in fetal, neonatal and post neonatal deaths. (1) Risk factors for inadequate

prenatal care defined by the Journal of Obstetrics and Gynaecology Canada (5) include low family income, unemployment, low education, single-parent families, immigrant status, smoking during pregnancy, and Indigenous status. Indigenous women and women living in rural or remote areas of Canada may receive insufficient health care during their pregnancy, partially due to limited access to obstetrically experienced health care providers (HCPs). (1)

Indigenous Prenatal Care

The Applied Policy Research Unit (6) define Indigenous as a global term that encompasses a variety of Aboriginal populations. “According to the United Nations, Indigenous people are the descendants of the original inhabitants of a country or geographical region at the time when people of various ethnic origins arrived and became dominant through a variety of means.” (6) In Canada, the term ‘Aboriginal’ encompasses First Nations, Inuit and Métis. First Nations most often refers to reserve-based communities in Canada. The University of British Columbia define Métis as a “specific Indigenous group in Canada with a very specific social history.” (7) (8) The general term used throughout this literature review will be “Indigenous”, however, different terms will be used, depending on the context of the article.

Among the Indigenous population, prenatal care often includes a holistic approach to providing a balance between the physical, spiritual, emotional, and mental aspects of Indigenous women. (9) Manitoba has one of the highest concentrations of Indigenous people among the provinces in Canada, representing 14% of the population. (2) Burns et al state that “many Indigenous people may not access required health care services due to the historical trauma that they and their ancestors experienced as a result of colonization and residential schools. This contributes to the gap in health care status between Indigenous and non-Indigenous peoples.” (3) A study by Riddell et al demonstrates that “Canada’s Aboriginal population faces significantly

higher rates of stillbirth and neonatal and postnatal death than those seen in the general population.” (10) HCPs need to provide an environment where women feel safe, comfortable, and respected; this sense of belonging is especially relative to the history of Indigenous women. It is crucial to understand the individual values, beliefs, and culture that each Indigenous woman may experience regarding her prenatal experience. (1)

Access to prenatal care remains a challenge for Indigenous women as many receive little or no prenatal care, leading to an increased risk of negative health outcomes for their newborns. (1) The Health Council of Canada found that First Nations mothers are more likely to be single and of younger age compared with non-First Nations Canadians. (11) Additionally, the rates of infant mortality among First Nations people are about twice the rate of non-First Nations people in Canada. (11) Due to the vulnerability of this population, access to prenatal care needs to become a priority in Canada’s health care system, as it remains a significant deficit.

Barriers to Prenatal Care Among Indigenous Women

The Health Council of Canada states barriers that limit access to health care include geography, transportation costs, shortage of childcare for other children, a lack of integration and coordination of community programs and services, and a lack of culturally safe and appropriate care. A shortage of primary HCPs, community midwifery, and antenatal care are also factors that limit the quality of care for Indigenous women. (11) For many Indigenous women, there is a fear of being judged by health care workers due to racism and the history of colonialism. This fear may result in an unwillingness to seek help and disclose information to providers. There is a need for interprofessional teams of health care workers to improve culturally sensitive access to care among Indigenous Peoples. (12)

Indigenous women also face travel access challenges due to living in remote and rural areas. Riddell et al found that First Nations mothers were more likely to live in rural parts of the province, farther from the closest hospital compared to non-First Nations mothers. (10) The Health Canada Evacuation Policy requires Indigenous women to leave their communities and families at 36-38 weeks' gestation to travel to a larger center to give birth if their communities do not have birthing services. (13) These women are separated from their families and other children in a critical time, resulting in stress, loneliness, and isolation. (11) This is an important barrier in which the health care system and HCPs may be able to aid with, such as promoting the use of home care nurses to patients' homes or encouraging prenatal services in smaller communities.

Improving Access to Prenatal Care

Programs that integrate culturally sensitive prenatal care into the healthcare system are beneficial in improving prenatal access to Indigenous women. The Aboriginal Prenatal Wellness Program (APWP) is a culturally safe prenatal care program that was created to serve Aboriginal women through a traditional system for prenatal care and aims to empower women, families and communities. The program supports Aboriginal women to navigate the health care system and provides translational service to enable traditional language. (9) Utilizing support groups for new mothers including breastfeeding education, nutritional advice, parenting sessions for new parents, and providing resources for childcare services in the community may be beneficial in aiding with the prenatal care services for Indigenous mothers. (3)

PURPOSE OF STUDY

The first objective of this literature review is to identify the barriers that Indigenous women face in accessing prenatal care in Canadian communities. The second objective is to articulate potential programming or health system modifications that aim to improve access to safe prenatal care for Indigenous women. The third study objective is to determine if utilizing physician assistants (PAs) could improve access to prenatal care for Indigenous women in Canada. Differences in prenatal care received between Indigenous and non-Indigenous women in Canada will also be explored in this literature review. Identifying the access barriers and cultural deficits in prenatal care for expecting Indigenous women is significant as this is an area that needs to be rectified to better support this vulnerable population in Canada.

METHODS

Inclusion Criteria

The inclusion criteria used to determine paper suitability were as follows: studies published in English that were focused on Canada and relevant to the research question within the last twenty years (2000-2020). The criteria that were relevant to the research question of this paper included: prenatal care among Indigenous women in Canada, and more specifically looked at the access barriers to prenatal care. Articles that only reviewed a specific topic, such as gestational diabetes, breastfeeding, nutrition or fetal alcohol spectrum disorders were excluded in favour of review and summary papers. Five articles were chosen for full review due to resource availability and the timeline of the project.

Search Strategy

A comprehensive article search was performed using PubMed on December 15, 2020, limiting the search between the time frame of 2000 to 2020 using the key terms: prenatal care AND (Indigenous OR Aboriginal OR “First Nations” OR “Inuit”) AND (Canada OR Manitoba) yielding 101 results. A search on Scopus on December 15, 2020, yielded 65 results using the previously mentioned key terms. An additional search on CINAHL was done on December 15, 2020, using the terms: (prenatal or antenatal) AND (Indigenous OR Aboriginal OR “First Nations” OR Inuit OR Métis) AND Canada between 2000-2020, yielding 52 results (Figure 1). An initial search on PubMed was done to seek articles on physician assistants providing prenatal services to Indigenous women in Canada, however, no satisfactory research was found. PubMed was used as a search engine as it is the largest health sciences database. Scopus is an interdisciplinary database used for social sciences and health sciences, thus, relevant to the health aspect of this review. CINAHL was included as a search engine as it is the cumulative index to nursing and allied health with a focus in health care, which was beneficial in determining the provider’s perspective in this review. A reference manager, Mendeley, was used to remove 82 duplicates, producing a total of 136 articles. These 136 papers were screened based on the relevance of their titles to the research question pertaining to the correct patient, population, and problem criteria. The screening produced 11 studies from PubMed, 17 from Scopus, and 14 from CINAHL. The abstracts were then assessed based on relevance to the research objective and yielded seventeen articles. The articles must have included Indigenous women in Canada and be excluded if they did not pertain to access barriers to prenatal care. The full texts of seventeen articles were assessed and narrowed down to include five articles within this literature review (Figure 1).

RESULTS

Search Results

The findings from the comprehensive search on PubMed, Scopus, and CINAHL regarding the access barriers that Indigenous women experience while seeking prenatal care resulted in five articles targeting the study objectives of this literature review (Table 1). Table 1 includes a summary of the study, design, objective, study population and sample size, outcomes, conclusion and limitations of each study. Three studies explored the barriers that Indigenous women face when accessing prenatal care. (3)(10)(2) Two studies targeted the second study objective, investigating potential programming or health system modifications to improve access to safe prenatal care for Indigenous women. (12)(9) No satisfactory studies were found with regards to the third study objective, exploring the use of PAs to improve prenatal services to Indigenous women in Canada.

Barriers to Receiving Adequate Prenatal Care Among Indigenous Women

Although safe access to health care is recognized as a basic human right, Indigenous women experience alarming health disparities and barriers to health care. (3) Heaman et al defined barriers as factors that made accessing prenatal care difficult or prevented a woman from obtaining prenatal care. (14) The specific barriers identified in the three studies analyzed in this literature review revolved around geographical distance, social supports, cultural understanding and awareness, and the social determinants of health, including the level of income and education. (3) (10) (2)

Burns et al conducted a feminist approach to explore the experiences of 4 Mi'kmaq women when accessing prenatal care in rural Nova Scotia. (3) The study by Burns et al identified three barriers impacting prenatal care including travel, social support networks, and cultural

beliefs and preferences. The study revealed that having a strong social support system during pregnancy from family members and the HCP, along with cultural support was a significant determinant of pregnancy outcomes. (3) The Mi'kmaq women were impressed with the accessibility and flexibility of the community health nurses, making a significant difference in the outcome of pregnancy for Indigenous women. The study revealed that cultural beliefs and the importance of traditions provide significant health benefits when integrating prenatal care. (3)

The quality of obstetric care and the use of obstetric interventions during labour and delivery between nulliparous First Nations and non-First Nations mothers in British Columbia (BC) was explored by Riddell et al. (10) This study identified 215 993 deliveries of single infants to first-time mothers, of which 9152 (4.2%) births were to First Nations mothers. They found differences in the obstetric care received by First Nations mothers compared with non-First Nations mothers in BC. The study found that “First Nations mothers were less likely to have early ultrasonography, less likely to have at least 4 antenatal visits and less likely to undergo induction for indications of post-dates gestation and prelabour rupture of membranes.” (10) It was discovered that First Nations mothers were 7 times more likely to have their first child before age 20, were more likely to have a preterm delivery before 37 weeks gestation and were less likely to deliver post-date (greater than 41 weeks) compared to non-First Nations mothers. (10)

A study by Heaman et al also found that a significantly higher proportion of Aboriginal women received inadequate prenatal care compared to non-Aboriginal women. Heaman et al conducted a study based on secondary analysis, interviewing 652 postpartum women who delivered a live single infant in two tertiary hospitals in Winnipeg, Manitoba. (2) The results from the Heaman et al study found that 61.7% of women received adequate prenatal care, 30.4%

of women had intermediate care, and 8% of women received inadequate prenatal care. Among the inadequate prenatal care group, 15.7% were found to be Aboriginal compared to only 3.6% representing non-Aboriginal women receiving inadequate prenatal care. A greater number of Aboriginal women (23%) had their first prenatal visit after the first trimester of pregnancy compared to non-Aboriginal women (12.5%). (2)

Factors associated with inadequate prenatal care among both the Aboriginal and non-Aboriginal women included low income, low level of education, multiparity, and higher levels of stress. The results from the Heaman et al study reveal that the most significant factor in receiving inadequate prenatal care was poverty (family income less than \$20,000), even above their Aboriginal background. (2) The study found that those suffering from poverty were 4 times more likely to receive inadequate prenatal compared to those with higher incomes. Poverty was more pronounced among the Aboriginal people (68%) compared to non-Aboriginal people (15.9%). Although there is no cost to prenatal care, many women require transportation and childcare, which pose additional financial burdens on these women.

Potential Programming or Health System Modifications Improving Access to Prenatal Care

Integrating culturally sensitive prenatal care for Indigenous women remains a challenge for many communities in Canada. Two studies were identified in this literature review to assess the promotion and integration of culturally sensitive prenatal care into the Canadian healthcare system for Indigenous women. (12)(9)

Oster et al conducted a community-based research study to determine the characteristics of effective care with First Nations women from the perspective of HCPs. This study was conducted in a Cree First Nations community in Alberta, Canada interviewing 12 HCPs who had been working with women from Maskwacis for a minimum of one year. They defined effective

care as care that contributes to healthier pregnancies and improved prenatal outcomes. (12) The study identified three categories critical to effective prenatal care among First Nations women from the perspective of the HCPs, including relationships and trust, cultural understanding, and context-specific care. Building a core relationship with the patient helped reduce fear of the healthcare system, which may have occurred from previous negative experiences and improved the likelihood of the patients attending their appointments. (12) The participants in Oster et al's study stated that real life experiences with Elders and patient's stories were more valuable for understanding the Indigenous culture compared to formal cultural sensitivity training alone. The study conducted by Oster et al found that "enhanced cultural understanding would reduce provider frustrations, reduce provider stigmatization and discrimination of First Nations patients, further develop provider compassion and awareness, and encourage more appropriate care recommendations." (12) Context-specific care was the third factor identified by the study in providing effective prenatal care to Indigenous women. The participants discussed the ideas of open-door care, in which pregnant women were able to receive care on a walk-in basis with the flexibility of nurses and staff to stay open later to accommodate people. (12)

A multicenter study by Di Lallo discusses the Aboriginal Prenatal Wellness Program (APWP) in Wetaskiwin, Alberta, Canada, which is a program that consists of a holistic model that includes mental, emotional, spiritual and physical wellness by providing culturally safe prenatal care for Indigenous women. (9) The providers that work for the program are trained and educated regarding the cultural traditions and the historical events, such as residential schools that have greatly impacted Aboriginal women's access to care. (9) The APWP promotes communication between Elders and pregnant women to improve prenatal education by encouraging and supporting prenatal assessments and care. (9)

Within Wetaskiwin County in Alberta, the fertility rates, infant mortality rates, teen birth rate, and smoking and drinking during pregnancy are all higher compared to the Alberta average. (9) Di Lallo's paper addresses the experiences of First Nations women when seeking help for prenatal care. An example of culturally insensitive care is discussed in Di Lallo's paper: "an Aboriginal woman showed up at the hospital in labour. She had no clothes or supplies for her baby. The health care provider criticized her for showing up with no supplies without realizing that First Nation cultural belief is not to buy anything for a baby until he or she is born." (9) Expecting mothers are being assessed and diagnosed earlier with a high-risk pregnancy and are provided with close monitoring for the rest of their pregnancy at APWP. According to Di Lallo, women who attended the APWP clinic felt the team provided enhanced patient care by providing more time to discuss concerns, educate the patients, and listen. Di Lallo's study found that "23 percent of women said they would not have accessed any prenatal care if it wasn't for the APWP clinic, and 47 percent said that the prenatal clinic helped them access prenatal care earlier." (9) Overall, the goal of the APWP is to help diminish the fears of being judged or isolated with hopes of providing safe prenatal care. (9)

Utilizing Physician Assistants to Improve Access to Prenatal Care Among Indigenous Women

Despite utilizing a broad search strategy, no published literature was identified in this search that included the use of PAs providing prenatal care services among Indigenous women in Canada. The team of providers aiding with Indigenous prenatal care found within the five articles analyzed in this literature review consisted of physicians, nurses, dietitians, mental health therapists, social workers, and Aboriginal community Elders.

DISCUSSION

A literature search was done to explore the challenges that Indigenous women face when seeking prenatal care. Programs integrating culturally sensitive practices to help improve access and build trusting relationships with their patients were also studied, with hopes to address the barriers. The third objective of this review was to determine the outcome of implementing PAs providing prenatal care among Indigenous women in Canada.

Barriers to Receiving Adequate Prenatal Care Among Indigenous Women

Common themes identified as barriers in this literature review include the social determinants of health (SDOH), such as geographical distance, social support networks between family and medical professionals, and how they engage in cultural understandings (as represented in a word cloud found in Figure 2). The findings from this review agree with the barriers identified in an additional study by Heaman et al; revealing personal barriers, program and service characteristics, care provider qualities, and healthcare system characteristics as barriers to prenatal care. (15)

Poverty is an overarching umbrella that links all other prenatal barriers; many of the obstacles pregnant Indigenous women attempt to overcome are created or exacerbated by poverty. (2) Riddell et al and Burns et al revealed that First Nations mothers were more likely to live in rural or remote communities posing additional challenges to receiving obstetrical care. There is less access to trained providers and medical facilities with adequate equipment in rural settings, including a lack of obstetricians and ultrasound imaging. (3) (10) This geographical barrier leads to the need for access for transportation to appointments, and or larger centers offering more specialized health care. Due to many Indigenous women living in poverty, they do not have access to local transportation, nor are they able to afford a personal vehicle. Therefore,

attending appointments in distant locations becomes difficult to achieve. Burns et al share that there are communities that provide transportation to appointments, but this resource is limited to 1-2 drivers per community. (3) The transportation challenges experienced by Indigenous women directly correlates with the need for support from family and providers.

Lack of social support from providers poses an additional challenge to receiving adequate prenatal care. Burns et al and Heaman et al found that having strong social supports from family and friends is essential in supporting pregnant women to attend prenatal appointments, thus greatly impacting the outcome of the pregnancy. (3) (2) Heaman et al identify negative provider personalities and qualities as potential barriers to receiving prenatal care for Indigenous women. (2) Furthermore, participants in the Oster et al study stressed the need for trusting relationships with open, sincere, compassionate HCPs who understand cultural aspects and barriers experienced by First Nations patients. (12)

Cultural understanding and the ability for HCPs to provide culturally appropriate prenatal care remains a challenge in Canada. Many Indigenous women are resistant to attend prenatal appointments due to the history of family members or their own traumatic experiences with Canada's healthcare system. A few participants in the Burns et al study identified language as a barrier to receiving care, thus, implementing translators and encouraging the use of Elders may help to reduce this barrier. (3)

Potential Programming or Health System Modifications Improving Access to Prenatal Care

Suggestions to improve prenatal care among Indigenous women target the barriers identified throughout this literature review (as represented in a word cloud found in Figure 3). A common theme among the papers in this literature review relates to the SDOH. Both, Oster et al and Di Lallo recognize that a social determinants approach should be encouraged when

providing prenatal care to expecting Indigenous mothers due to the interconnected network of determinants acting as barriers. (9) Oster et al revealed that many Indigenous mothers are dealing with challenges associated with SDOH and that attending appointments for prenatal care is not a priority for some. Examples of SDOH restricting access to prenatal care include lower socioeconomic status, lower levels of education, and social exclusion. (3) HCPs should aim to promote care by working alongside women to support them and provide a positive, therapeutic relationship to help them feel safe. (3) The participants from Burns et al's study found that "there is a need for maternity services and programs, such as prenatal education and assessments where Indigenous women live." (3) Promoting prenatal classes in the Indigenous communities regarding car safety, breastfeeding, gestational diabetes, labour process, and effects of substance use are additional ways to improve resources for expecting Indigenous mothers. (3)

To help relieve transportation as a potential obstacle for Indigenous women, prenatal services should be implemented closer to communities where the expecting mothers live. Recommendations from Burns et al's study suggest mobilization and prenatal home visits with community health nurses to help reduce the travel barriers associated when pursuing prenatal care. Another method to reduce transportation as a barrier to prenatal care is implementing bus services or tickets and taxi vouchers to assist with transportation to prenatal appointments, as suggested by Heaman et al's study. (15) The participants from Oster et al's study believe that health care systems must become more accessible and flexible to meet the needs of the Indigenous female patients seeking prenatal care. To help reduce the barriers to care that many Indigenous women face, the system must move beyond the current standards in providing prenatal care. This includes extending clinic hours, allowing walk-in clinics for prenatal care, and meeting with patients where they are at. (12)

Lack of social networking and the formation of trusting relationships with prenatal providers poses additional challenges to receiving prenatal care among Indigenous women. Di Lallo provides recommendations for the HCPs to help overcome social barriers for Indigenous women seeking prenatal care, such as building trusting relationships with Indigenous women and educating the women about the importance of prenatal care concerning the health of their newborns and themselves. (9) Burns et al state that “building a trusting relationship between health care providers and Indigenous women, honoring Indigenous practices, providing better access to health care services, and emphasizing the importance of education are some of the major areas needing attention.” (3) Another potential factor in improving prenatal care among Indigenous women may be to increase the number of Indigenous HCPs to further enhance cultural understanding. Oster et al recommend holding sessions with Elders and the Indigenous community members to share real-life experiences to help enhance the cultural understanding of providers caring for the Indigenous communities. (12)

To address the lack of cultural awareness and understanding among HCPS providing prenatal care for expecting Indigenous women, APWP encourages providers to become aware of the health disparities and social determinants within Indigenous communities. Educating HCPs on the impacts of colonization among the Indigenous population is crucial in providing culturally safe care for these women. Many Indigenous individuals feel discriminated against, isolated and judged when accessing the traditional health care system. Thus, it is imperative to provide a safe environment for Indigenous women to feel comfortable and supported. (9) Encouraging non-judgemental providers will hopefully lead to more expecting Indigenous mothers accessing routine prenatal care, positively influencing the birth experience. Providing a service to cater translation among Indigenous women may improve access in the community to help relieve a

possible language barrier. Promoting access to an Elder or an Indigenous counsellor to provide spiritual support for the Indigenous women, as well as including families in the prenatal care may increase the efficiency of care among Indigenous women. The APWP model should be considered for other communities to follow to promote a team approach to prenatal care which addresses the barriers among the Indigenous population.

Utilizing Physician Assistants to Improve Access to Prenatal Care Among Indigenous Women

A significant finding from this literature review was that there was no research found regarding the use of PAs improving prenatal access to Indigenous women in Canada. Prenatal care among Indigenous women is an area in desperate need of providers, thus, implementing PAs into Indigenous communities may be a possible solution to increase access to prenatal services in Canada. Many rural and remote areas have nursing stations that are funded by the federal government and operated by nurses who are often the first point of contact. Health Canada found that the nurses occupying these nursing stations often work outside their scope of practice to provide essential health services in remote Indigenous communities. (16) PAs are trained as medical generalists that cater to the vast majority of health conditions that Indigenous people living in remote communities experience. PAs are trained to integrate their skills and knowledge with other HCPs, thus including PAs into these nursing stations may be a strategy that enhances the services provided by nurses and physicians to improve treatment decisions for patients. (17)

The findings identified from Oster et al's study regarding the qualities of HCPs providing safe, accessible care for expecting Indigenous mothers may also apply to PAs providing prenatal care. PAs are medically trained professionals whose duties include performing history and physical exams, ordering and interpreting diagnostics, forming differentials, developing treatment plans and educating patients and their families regarding medical decisions. (18) The

MPAS program promotes the use of a social determinants approach when providing care for patients. Working with remote communities could be added as a focus area to the PA program including specific training regarding Indigenous culture and education, as well as medical training in ultrasound, critical care, and experience working with medical evacuation teams.

STUDY LIMITATIONS AND FURTHER RESEARCH

A consistent limitation among all of the studies analyzed in this literature review was the small sample size. Thus, having a small study population suggests that the conclusions from each study may not be extrapolated to the larger Indigenous population of Canada. However, the findings from the studies add to the growing body of evidence regarding prenatal care among Indigenous women and guide the focus of future research. A limitation to this study is that the review did not include primary research, instead, most of the papers reviewed in this paper included secondary evidence. Secondary literature may lead to bias from the author's views within this paper. Some of the research used in this review was based on the clinician's perspective and did not consider the patient's perspective, leading to bias in the results. This literature review discussed articles that were not specific to Manitoba, thus the information cannot be generalized to include all of Canada. Research on PAs working with Indigenous communities to provide prenatal care was sparse, thus further research in this area would be beneficial as utilizing PAs in these communities may be an effective way to reduce barriers to receiving prenatal care.

CONCLUSION

Access to prenatal services among Indigenous women remains a concern for Canada's health care system. This literature review identified the barriers experienced by Indigenous women while seeking prenatal care in Canada. The challenges identified belong to the SDOH, including geographical location and transportation, social supports with regards to building meaningful relationships with HCPs, and lack of HCP cultural awareness and understanding. A study analyzed in this review revealed differences in obstetrical care received by Indigenous and non-Indigenous women. Thus, promoting culturally safe programs and modifications to the health care system are methods to help relieve these obstacles. Based on the findings from this literature review, increasing the number of prenatal programs similar to the APWP in Alberta may be beneficial in overcoming challenges faced by Indigenous women. Encouraging training for cultural understanding and awareness for HCPs to create trusting relationships with their patients is another method to improve access to care. Further studies need to be done to investigate the benefits of implementing PAs into improving prenatal care for Indigenous women.

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APPENDIX

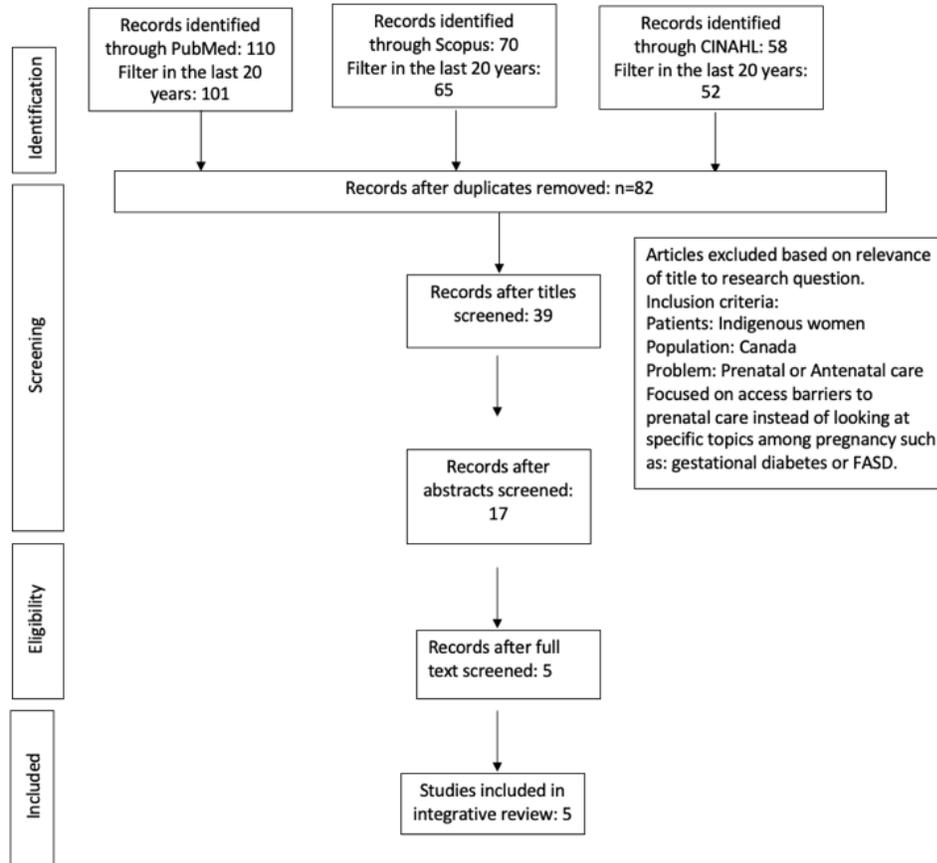


Figure 1: Prisma diagram identifying the search results, screening, eligibility, and the included articles for the initial literature search on prenatal care among Indigenous women in Canada.



Figure 2: Word cloud representing the significant access barriers to prenatal care among Indigenous women identified in this literature review.



Figure 3: Word cloud representing the themes identified throughout this literature review regarding how the health system and HCPs may improve access to prenatal care among Indigenous women.

Table 1: Summary of the five articles used in this literature review, including the study, design, objective, population and sample size, outcomes, conclusion, and limitations.

Study	Study Design	Objective	Study Population and Sample Size	Outcomes	Conclusion	Limitations
Riddell et al, 2016 (10)	Retrospective Cohort Study	“To compare indicators of obstetric care quality and use of obstetric interventions between First Nations and non-First Nations mothers in British Columbia, Canada”	Nulliparous First Nations and non-First Nations mothers in British Columbia from 1999 to 2011. Sample size: 215 993 nulliparous women in British Columbia, 9152 being members of the First Nations cohort.	“First Nations mothers were less likely to have early ultrasonography, to have at least 4 antenatal care visits, and to undergo labour induction after prolonged prelabour rupture of membranes or at post-dates gestation”	The study “identified differences in the obstetric care received by First Nations mothers compared with the general population”	Limited to first-time mothers who delivered single infants at home with a registered midwife or in hospital in BC between 1999-2011. Only 4.2% of the first-time mothers were First Nations, compared to the rest of the population being non-First Nations. The study also cannot differentiate between care that was due to the uptake of interventions or in the offering of interventions.
Oster et al, 2016 (12)	Semi-structured interview Qualitative Research	“To explore the characteristics of effective care with First Nations women from the perspective of HCPs that service a large First Nations community in Alberta”	Ethnographic community-based participatory research study in collaboration with a large Cree First Nations community in Alberta, Canada. Sample size: 12 prenatal healthcare providers	“Relationships and trust, cultural understanding, and context-specific care were key features of effective prenatal care”	“Improving prenatal care for First Nations women needs to allow for genuine relationship building with patients, with enhanced and authentic cultural understanding by HCPs, and care approaches tailored to women’s needs, culture, and context.”	Care from the HCP’s perception rather than from the patient’s perspective (outlook will vary based on individual and their experiences). Sample size of 12 is limiting in providing sufficient data to make decisions from. Further research interviewing the Indigenous women of the Cree First Nations community receiving prenatal care from these HCPs interviewed would be insightful.
Di Lallo, 2014 (9)	Multicenter Study	“Describes the APWP and discusses how increased participation in health care by historically marginalized populations can lead to better maternal and neonatal health outcomes”	Wetaskiwin, Alberta	In the 2008 APWP annual report: “women felt that care delivery was more efficient and supportive of their needs than was mainstream health care”	“The APWP has helped diminish Aboriginal women’s fears of being judged, discriminated against or isolated”	Did not contain a controlled clinical trial and did not pertain to a certain sample size, thus the results were generalized. A specific research question was not identified in the paper.

Heaman et al, 2005 (2)	Secondary Analysis of Data	“Describes and compares the prevalence and predictors of inadequate prenatal care among Aboriginal and non-Aboriginal women giving birth in Manitoba”	Manitoba, Canada Interviewed 652 postpartum women who delivered a live singleton infant in 2 tertiary hospitals in Winnipeg, Manitoba	“A significantly higher proportion of Aboriginal women (15.7%) than non-Aboriginal women (3.6%) received inadequate prenatal care...significant predictors of inadequate prenatal care included low income, low self-esteem, high levels of perceived stress, and Aboriginal background.”	“Women who do not receive adequate prenatal care are more likely to live in poverty, experience highly stressed lives, have low levels of self-esteem, and be Aboriginal”	Study used self-reported data, which may involve bias from women accurately recalling the gestational age when they first sought prenatal care or how many visits they had during their pregnancy. The Kessner index used does not indicate anything about the content or quality of prenatal care, it is strictly a utilization index. Limited to two tertiary care hospitals in Winnipeg, thus, extending the hospitals outside of Winnipeg to rural and remote areas to include a greater population of Indigenous women may influence the findings of the study.
Burns et al, 2019 (3)	Qualitative Study	“To gain a more comprehensive understanding of Mi’kmaq women’s experiences accessing prenatal care”	4 Mi’kmaq women in a First Nations Community in rural Nova Scotia	Identified 3 themes to barriers to receiving prenatal care: 1. Travel 2. Social support networks 3. Cultural beliefs and preferences	“Issues related to access to prenatal care included difficulties organizing transportation and inequitable services...it became evident that inequities in the social determinants of health impact women in accessing adequate prenatal care”	Difficult to draw conclusions from a sample size of 4 participants. This study only interviewed women who received prenatal care, thus, further research such as interviewing women who have not received adequate prenatal care would be beneficial.