An Update on Pregnancy Complications that Affect Black Canadians

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Introduction

The Federal Government of Canada [GOC] projected that by 2020 the foreign-born proportion of the total Canadian population is projected to increase by 25%.[1] The 2016 census reports that there are over 1 million black people living in Canada with 51.6% being black women and the black population is estimated to double by 2036.[2] The population of Black Canadians are on the rise yearly due to immigration, settlement and reproduction; however, gaps exist in the complete portrait of substantial health data for Black Canadians.[2] Canada's colour-blind approach to health care creates gaps that do not allow for depiction of the marginalization and health disparities that these groups of people might face and may not reflect how communities understand and talk about health.[1] Research conducted by McGill University discovered that black women in Canada have substantially higher rates of premature births than white women mirroring relative disparities in the United States.[3] Therefore, for the purposes of this article, data for both Canadian and United States health disparities of black women will be employed.

According to the Center for Disease Control and Prevention (CDC), though full reasons are unclear, black mothers are more than twice as likely to experience stillbirth when compared to Hispanic and white mothers and may be linked to differences in health problems that occur during pregnancy or underlying health conditions.[4] Health disparities present opportunities for prevention to reduce fetal mortality rates. This article addresses the role of the nurse practitioner (NP) across the maternal health spectrum to mitigate the health disparities that affect black women disproportionately.

Background

Women across different races are faced with challenges in maternal health and efforts to reduce maternal and fetal morbidity have led to an increased focus on improving maternal health before, during and after pregnancy.[5] Infant mortality provides information on maternal and infant health. In Canada, one of the leading causes of death is infant mortality particularly caused by congenital malformations, deformations and chromosomal abnormalities, disorders related to short gestation and low birth weight and maternal complications of pregnancy.[2]

Black women are three to four times more likely to experience pregnancy related death, preventable maternal death and heightened risk of pregnancy-related death when compared to white women.[6-7] They are more likely to have quick growing fibroids at a younger age which can cause postpartum hemorrhaging and display signs of

preeclampsia earlier in pregnancy leading to death if not properly treated.[7] Black women also experience physically faster aging due to chronic stress thus making pregnancy risker at an earlier age.[7] All women regardless of race, socioeconomic status and health status should receive health care that is respectful, culturally competent, safe and of the highest quality.

Social Determinants of Health and Racial and Ethnic Disparities

Health disparities are inequalities in health outcomes and their determinants within and across communities and countries, as defined by social, demographic, environmental and geographic attributes.[8] These disparities greatly affect women, children, and persons with disabilities, residents of rural areas, racial and ethnic minorities.[8] Nurse Practitioners (NPs) play a pivotal role and are able to identify factors that are modifiable, encourage healthy public policy, ensure an effective social safety net and provide patients with resources to decrease the negative burden of social determinants on health.[1]

Social determinants of health such as utility needs, access to food and safe water, stable housing, safe home and community, immigration status and employment status relate closely with health outcomes, health care and health-seeking behaviours.[2, 5] Women of colour with low socioeconomic status are at risk of adverse pregnancy and overall poor health outcomes.[5, 8-9] NPs can increase access to health care and social services by understanding the social and structural determinants of health for Black Canadians.

Cultural Competence

Nurse practitioners are on the front line of patient care and are both caregivers and educators of clients from diverse backgrounds.[10] Many studies have shown that people of different cultures have different attitudes of pain and expressions of pain.[11] The same can be said for how clients describe their symptoms, how they experience it and their preferred traditions and health practices.[11] NPs can achieve cultural competence and promote cultural safety by providing emotional support, providing helpful information, building relationships, being open-minded, acknowledging health care disparities, promoting social justice, engaging in comprehensive ethical reflection, and providing interpretation services and diversity in the care they provide.[8, 12] NPs as constructivist can form collaborative innovative care plan with clients that help prevent and reduce health inequalities.[12] NPs can actively construct their knowledge to practice culturally safe care by using textbooks such as Transcultural Health Care: A Population Approach by Larry D. Purnell and Eric A. Fenkl, 2021.

Reproductive Care

Preconception Care

The foundation of a child's health throughout their life is based on the foundation of the parent's health status.[13] The primary care NP can maximize the benefits of preconception care (PCC) through the reproductive years of a woman and her partner by identifying unique risk factors and encouraging healthy behaviours that can improve maternal and perinatal outcomes.[13-15] Implementation of systematic processes such as The Preconception Health Care Tool developed by Centre for Effective Practice https://cep.health/clinical-products/preconception/ as a primary care initiative can help NPs to assess preconception health and risk factors for pregnancy of all patients of reproductive age.[16]

Blacks are disproportionately affected by the effects of hypertension and diabetes when compared to other racial groups.[17] PCC presents the opportunity to identify and manage chronic medical conditions such as hypertension and diabetes that have a significant adverse impact on both mother and fetus if not properly managed in pregnancy.[15] It also provides the NP the opportunity to identify nutritional concerns that can have negative effects on health, pregnancy, conception and fertility, encourage motivational behaviour to strive for an optimal pre-pregnancy weight and collection of comprehensive history and genetic testing for both mother and partner.[15]

A genetic and family history of the patient and partner should be obtained in detail.[18-20] All women should be counselled to take vitamins containing 400 micrograms of folic acid daily at least 1 month before conception and continue for the first 12 weeks of pregnancy but women who have a history of a child with a neural tube defect should take 4mg of folic acid daily for at least 3 months before and 3 months after conception.[18] A thorough review for teratogens in all prescription and nonprescription medications, herbal treatments and possible environmental exposures should be reviewed.[18]

Prenatal Care

Prenatal care is important for evaluating risk, promoting health and managing complications in pregnancy. NPs engage patients early in pregnancy and provide risk assessment and psychosocial, cultural and educational support with the goal of improving pregnancy outcomes.[21]

> The NP can provide culturally sensitive care with special attention given to ethnic variables with the goal of ensuring safety for both mother and child through health promotion, education, support and shared decision making.

Women of Black, Hispanic and Native American descent are at increased risk for late entry into prenatal care.[21] Poor compliance and late presentation for prenatal care is associated with adverse maternal behaviours and outcomes such as smoking, alcohol consumption, poor weight gain, inadequate prenatal care, and decreased breastfeeding rates/initiation.[21] Black women are twice as likely to develop a maternal near miss as a result of inadequate prenatal care than white European women.[22] One study indicated that black women do not have a higher prevalence of pregnancy complications such as eclampsia, postpartum hemorrhage, placenta previa, abruptio placentae and preeclampsia; however, they experience a twofold to threefold increase in death rates due to these complications compared to white women.[22] The NP can provide culturally sensitive care with special attention given to ethnic variables with the goal of ensuring safety for both mother and child through health promotion, education, support and shared decision making.

Interpregnancy

The goal of interpregnancy care is to proactively address health issues that may adversely affect future maternal and fetal pregnancy outcomes and optimize long-term wellness for women and children along their life course.[5, 18] Within the scope of interpregnancy and well-woman care transitions, the NP should include history updates, reproductive life planning, mental health assessment, vaccinations, infection management, and assessment of social determinants of health including intimate partner violence.[5, 18]

Women of colour and of lower socioeconomic status appear to be at risk of the shortest interpregnancy intervals of less than 6 to 18 months with increased adverse risk.[5] Education on contraceptive use and woman-centered family planning counselling is shown to be effective in modifying this risk.[5]

Specific Medical Conditions

Black women with chronic conditions are at four times the increased risk for adverse maternal outcomes.[23] It is important for NPs to understand the interactions between race, chronic conditions and maternal outcomes to influence decision making and strategic implementation of health interventions to reduce rates of ethnic disparities in adverse maternal outcomes.[24]

NPs should be equipped with knowledge of conditions that disproportionately affect black Canadian women and provide counselling, interpregnancy testing, screening, and culturally competent interventions.

Preterm Birth

Preterm birth is the leading cause of perinatal morbidity and mortality and the risk of preterm birth is higher in African Americans.[25] Insufficient vitamin D in early pregnancy has been associated with increased risk of preterm birth in ethnic minority women in Canada due to increase in inflammatory response, dysregulation of immune function and transcription of genes that have a role in placental function which are involved in pathogenesis of preterm birth.[25-26] Black people in western countries have less food sources for vitamin D and those in higher latitudes require longer exposure to sun than lighter-skinned people to absorb the same amount of vitamin D from the sun.[26] The role of vitamin D in brain function and its higher deficiency in dark-skinned immigrant mothers suggest the hypothesis and explanation of increased rates of autism in dark skinned children.[26]

NPs alongside obstetricians can obtain detailed medical history of all previous pregnancies in women who have history of preterm birth and the causes ideally within 6 to 8 weeks after delivery in order to obtain accurate information and formulate a management plan for subsequent pregnancies and need for appropriate referral.[18] These women should also be counselled against short interpregnancy intervals due to the negative affect on subsequent pregnancy outcomes .[18]

Obesity

According to the World Health Organization (WHO), obesity and overweight are defined as abnormal or excessive fat accumulation that may impair health.[27] Women with excessive gestational weight gain and obese pregnant women are at a two to fourfold increased risk for gestational diabetes (GDM), pregnancy induced hypertension, stillbirth, preeclampsia, and cesarean delivery compared with women of normal BMI.[15, 28-30] Maternal obesity is associated with prevalence of childhood cardiovascular diseases such as onset and development of obesity, insulin resistance, cardiac hypertrophy and myocardial contractile anomalies in children.[31]

Black women are more likely to enter pregnancy overweight or obese and are four times more likely to remain overweight following pregnancy compared with white women.[32] NPs can implement culturally sensitive interventions such as nutritional and physical activity plans for weight loss to decrease the ill-effects of obesity on the mother and fetus.[15, 32]

Pregnancy-Specific Cardiovascular Diseases (CVDs)

The leading cause of maternal and fetal mortality in pregnant women are CVDs.[33-34] Amongst the most common and severe pregnancy-specific CVDs are gestational hypertension, preeclampsia, and peripartum cardiomyopathy.[31, 34-35] During pregnancy the maternal body remodels to accommodate an increased circulatory volume overload which increases cardiac output as much as 45% above pre-pregnancy levels.[34] Black women have a higher risk of peripartum cardiomyopathy, preeclampsia, intrauterine fetal death and a more severe form of hypertension, antepartum hemorrhage, and increased mortality.[34-35]

Some clinical manifestations of pregnancy-specific CVDs such as dyspnea, edema, and excessive fatigue can often be confused with signs and symptoms of normal pregnancy. NPs must recognize onset and progression of these symptoms and emotional symptoms such as anxiety, panic and helplessness that often accompany peripartum cardiomyopathy.[34] Women who present with peripartum cardiomyopathy have symptoms such as dyspnea, fatigue and palpitations that moderately or severely impede daily activities and they often have orthnopnea, persistent nocturnal dry cough, new onset murmurs, tachycardia, hypo or hypertension and elevated jugular venous pressure.[34] Though these physiological changes are normal, pregnant women often feel shortness of breath and fatigue even in day-to-day activities therefore increasing the risk of a cardiovascular event in those at higher risk.[34]

Genetic Counselling and Sickle Cell Disease

Individuals of African descent are at increased risk of certain ethnic-related inheritable conditions such as sickle cell disease (SCD) and thalassemia and should receive genetic counselling based on family history and carrier status.[18, 36] SCD is an inherited hemoglobinopathy that manifests primarily as chronic hemolytic anemia and pain crises due to vaso-occlusion resulting in stroke, renal dysfunction, pulmonary hypertension, retinal disease and avascular necrosis.[30] Women with SCD have higher risk of fetal complication and require enhanced preconception and prenatal care.[37] Thalassemia results in varying severity of chronic anemia and reduced or no production of hemoglobin.[38] NPs can find quick facts about thalassemia at https://www.cmaj.ca/content/cmaj/192/41/E1210.full.pdf.

Postpartum

Women with a history of gestational diabetes mellitus (GDM) are at significantly higher risk of developing type 2 diabetes (T2D) within 6 years of childbirth and children exposed to GDM invitro are at increased risk for future metabolic abnormalities, still birth and macrosomia.[15, 18, 39-40] GDM is prevalent among mothers who are non-white, older, overweight and/or lower socioeconomic status and increases the risk of developing postpartum depression, subsequent reoccurrence of GDM in future pregnancies, increased maternal risk of glycemic instability, preeclampsia, surgical caesarean delivery and progression of chronic diabetes complications.[19, 29, 41] Therefore, NPs have the opportunity to deliver transgenerational health promotion interventions including screening, reproductive planning, identifying modifiable risk factors and encouraging lifestyle changes, weight management and promotion of breastfeeding.[18, 34]

NPs should encourage pre-pregnancy weight loss by 6 to 12 months postpartum.[5, 29] Post-pregnancy weight retention has been associated with adverse obstetric consequences while reduction in BMI between pregnancies is associated with improved perinatal outcomes.[5, 29] Research shows that more black women are obese and extremely obese compared to other ethnic groups and are more tolerant of weight gain.[29, 42] NPs can liaise with other allied health care professionals (HCP) to establish goals to achieve optimal weight and they can also use religious communities as a resource for obesity education and behaviour modification as research shows a positive connection.[42]

Clients who survive preeclampsia are at elevated risk for postpartum cardiometabolic disease such as abnormal mean arterial pressures, glycosylated hemoglobin values, total cholesterol-to-HDL ratios, and waist-to-hip ratios compared to other races.[35] NPs should provide anticipatory guidance and support to enable women to breastfeed as multiple studies show that longer duration of breastfeeding is associated with improved maternal health such as

decreasing the risk of diabetes, hypertension, myocardial infarction, ovarian cancer and breast cancer.[5]

Barriers to Care

Some barriers to reduction of peripartum racial and ethnic disparities include improper assessment due to unreliable measurements, lack of recognition that disparities exist at the personal and system level, communication and language barriers, and different structures of care from preconception to prenatal and interpregnancy care.[23]

Role of NP/Research Opportunities

The Federal government can collect and monitor data to track health and conditions that may affect the health of black women in Canada.[43] National initiatives can be implemented to further research that engages the community and HCPs to address disease and health conditions that disproportionately affect Canadian minorities.[43]

HCPs can work with other sectors such as faith and community organizations to promote health starting from infant-hood and can employ proven programs that reduce disparities and barriers. Training can be developed to educate HCP on cultural and health differences within the healthcare system.[43] They can also promote trusting relationships with clients and learn about social and economic conditions that put their clients at higher risk for having certain health problems.[43]

Little research exists regarding best practices for transitional care within the context of GDM and with increasing prevalence among ethnic and racial minority women, urgency of research is needed to determine the most effective modes of delivery of culturally-sensitive diabetes prevention education and interventions for women with a history of GDM.[18]

Conclusion

In conclusion, black women are at higher risk of mortality due to complications associated with pregnancy.[22] Province based review of all pregnancy-related death and expansion into review of maternal complications could help improve the quality of maternity care for women in Canada. There is much research and data collection to be done around the challenges new immigrants and well-established black Canadians experience that can negatively or positively impact their maternal health. A multidisciplinary approach to preconception, prenatal, postpartum, and interpregnancy care will be critical to make changes that address maternal health disparities for blacks.[44] The nurse practitioner can be the liaison that advocates change for the client at the individual, organizational and political level.

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