

Climate Conversations

From Mother Earth to Motherhood: Climate Change and Perinatal Health

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Climate change is the greatest public health crisis of the 21st century and has a significant impact on Americans. Locally, nationally, and internationally, average temperatures are rising. New York State (NYS) has seen average temperatures increase faster than the average in the US. While New York City is more prone to heat waves than the rest of NYS, Buffalo and Albany have also been experiencing heat waves more often. UNICEF estimates that by 2050 almost every child will experience frequent heat waves.

The Direct Impact of Heat on Pregnant Persons and Infants

Heatwaves disproportionately affect vulnerable populations, including pregnant persons and infants. These groups are particularly susceptible to environmental changes due to their unique physiological conditions and rapid development.

Pregnant persons undergo many physiological changes, such as increased cardiac output, which strain the body. High temperatures can increase the risk of heat stroke, preterm birth, high blood pressure, and stillbirth. Even a single hot day can pose challenges, as pregnant persons can struggle to regulate their body temperature. Dehydration, a common consequence of high heat, can further exacerbate these complications.

Infants grow and develop rapidly but have immature temperature regulation systems. This makes them highly susceptible to extreme temperatures, increasing their risk of heat stroke and dehydration. Young children are also susceptible to extreme heat as they cannot effectively reduce their body temperature by sweating.

High temperatures often lead to poor air quality, which can further impact pregnant persons and infants. Poor air

quality is associated with increased rates of preterm birth, low birth weights, and compromised fetal lung development and respiratory function in infants and young children.

The Indirect Impacts of Climate Change on Maternal Health

Food Insecurity and Limited Nutritional Access

For pregnant persons, proper nutrition is crucial for fetal development. Yet, many rely on programs such as the Supplemental Nutrition Assistance Program (SNAP), which does not cover the full cost of a healthy diet. Additionally, food deserts with limited access to grocery stores selling fresh produce—remain a persistent problem in low-income neighborhoods, disproportionately affecting Black and Brown communities.

Without adequate nutrition, pregnant persons face increased risks of low birth weight, gestational diabetes, and hypertension, exacerbating maternal and infant health disparities.

Barriers to Healthcare Access and Disruptions in Prenatal Care

Climate-related disasters—hurricanes, floods, extreme heat waves—create significant barriers to prenatal and postpartum care. Many healthcare facilities in affected regions face infrastructure damage, staff shortages, and transportation disruptions, leaving pregnant individuals unable to access essential medical services.

Rural and urban communities already experience provider shortages, particularly in maternal-fetal medicine, making it even more difficult for at-risk pregnancies to receive specialized care. Pregnant persons with pre-existing conditions such as hypertension and diabetes are especially

vulnerable, as delayed or missed appointments can lead to life-threatening complications such as preeclampsia, preterm labor, or stillbirth.

Intersectionality of Vulnerabilities

The effects of climate change on pregnancy outcomes are not evenly distributed. Black and Brown pregnant persons are disproportionately impacted due to historical redlining, environmental racism, and systemic healthcare inequities.

Maternal and Infant Health Inequities

In the US, pregnant persons and infants experience higher rates of morbidity and mortality when compared to many other high-income countries. Stark disparities exist when examining the outcomes of Black and Brown pregnant persons and infant populations when compared to White populations. In NYS between 2018-2020, Non-Hispanic Black women had a pregnancy-related mortality ratio that was five times higher than non-Hispanic White women. Additionally, NYS received a grade of “C+” in the 2024 March of Dimes preterm birth report, with Black infants being 1.6 times more likely to be born prematurely.

Disproportionate Burdens on Black and Brown Communities

These disparities also exist when examining the effects and impact of climate-related morbidity and mortality, with racial and socioeconomic marginalized populations being affected more. The impact of climate change will only continue to complicate and contribute to the health disparities that affect vulnerable pregnant and neonatal populations. Rising temperatures, droughts, and natural disasters disrupt food production and supply

chains, leading to higher food costs and reduced access to fresh, nutritious foods.

- Many low-income communities lack green spaces and cooling infrastructure, leading to higher rates of heat-related pregnancy complications.
- Increased vulnerability during disasters
 - Climate-related displacement often forces marginalized communities into substandard housing or emergency shelters where healthcare access is severely limited, increasing risks of pregnancy complications and poor birth outcomes.

Addressing these disparities requires intentional policy interventions, increased funding for community health programs, and equitable disaster response planning that prioritizes maternal health and racial equity.

The Role of Nurses in Addressing Climate-Related Maternal Health Disparities

Nurses who care for pregnant persons and infant populations should screen their patients and conduct an environmental health assessment in which they can identify patients who are at risk for extreme temperatures and poor air quality. Conducting these assessments throughout the year can help identify individuals who need resources before they may be impacted. Solutions may include connecting patients to programs that may supply air conditioners, reduce electric bills, or refer them to a social worker for additional support.

It is crucial to educate pregnant persons about their higher risk of developing heat-related complications. Sharing tips for staying cool and hydrated, as well as warning signs of complications, can be beneficial. Additionally, new parents should be educated on how high temperatures can impact their infants and the warning signs of infant distress. It is also important to provide information on how to access emergency support services in climate-impacted areas.

One way to advocate for these popu-

lations is to support the Protecting Moms and Babies Against Climate Change Act, which is part of the Momnibus Act. Introduced by fellow nurse and Representative Lauren Underwood and Senator Ed Markey, this legislation focuses on addressing climate-related health risks for mothers and infants, especially in communities of color. It funds community programs, trains future healthcare workers, advances research through an NIH consortium, and identifies climate risk zones for pregnant and postpartum persons and their babies. Additionally, advocating for policy changes such as expanded access to nutrition assistance programs (SNAP, WIC), increasing funding for community health clinics, and promoting climate-resilient healthcare infrastructure can support these populations. By integrating climate considerations into maternal health policies, nurses can advocate for systemic changes that protect the most vulnerable populations.

Nurses, your role is crucial in mitigating the impact of climate change on pregnant persons and infants. Stay informed about the latest research and guidelines, conduct thorough environmental health assessments and screenings, and educate your patients about the risks and preventive measures related to climate change. Furthermore, it is important that we advocate for policies and programs that support vulnerable populations and work together to ensure that every patient has the resources they need to stay safe and healthy during extreme weather events. Your dedication and proactive efforts can make a significant difference in improving this and future generations.

Conclusion

Climate change is not just an environmental public health crisis—it is a maternal health crisis. Addressing its direct and indirect impacts, such as food insecurity, healthcare access, and disproportionate burdens on marginalized communities, requires a multifaceted approach. Through policy reform, nurse advocacy,

and targeted environmental health interventions, we can build a more equitable and climate-resilient healthcare system that safeguards the well-being of pregnant persons and their children. ■

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