



Maternal Health and Hypertension

Presented by:

Illinois Primary Health Care Association

December 2023

Developed by:

Naila Al Hasni, MPH, PCMH, *Senior Manager of Clinical Quality Improvement*

Sandhya Poudel, *IPHCA Intern*

World Health Organization (WHO) estimates that every day approximately 800 women die from preventable causes related to pregnancy and childbirth (WHO, 2023). Complications arising from pregnancy and childbirth contribute to the unfortunate loss of women's lives. Most of these complications emerge during pregnancy and are largely preventable or treatable with appropriate health intervention (WHO, 2023).

CDC estimates that hypertension occurs in 1 in every 12-17 pregnancies in the United States (CDC, 2023). Hypertensive Disorders of Pregnancy (HDP) are the second leading cause of global maternal mortality behind maternal hemorrhage and are a significant cause of short- and long-term maternal and fetal/offspring morbidity (Kassebaum et al., 2016). HDP encompasses chronic hypertension, gestational hypertension, preeclampsia/eclampsia, and preeclampsia superimposed on chronic hypertension (Garovic et al., 2022). Among high-income countries, the U.S. has one of the highest maternal mortality rates for high blood pressure-related problems. Cardiovascular disease, including stroke and heart failure, now accounts for up to half of all maternal deaths in the U.S., where pregnancy-related stroke hospitalizations increased more than 60% from 1994 to 2011. In the U.S., high blood pressure during pregnancy disproportionately affects women who are Black, American Indian or Alaska Native (AHA, 2021). Most guidelines worldwide define high blood pressure during pregnancy as a reading of 140/90 mm/Hg. In the U.S., the American College of Obstetricians and Gynecologists recommends starting treatment at 160/110 mm/Hg. Other guidelines recommend starting treatment at 140/90 mm/Hg (AHA, 2021).

High blood pressure during pregnancy can put the mother and her baby at risk for problems during the pregnancy as well as it can also cause problems during and after delivery. Complications that arise from high blood pressure for the mother includes preeclampsia, eclampsia, stroke, the need for labor induction (giving medicine to start labor to give birth), and placental abruption (the placenta separating from the wall of the uterus), gestational diabetes, kidney failure, postpartum hemorrhage, pulmonary edema, heart attack, and pregnancy-related death. Whereas the baby can have complications like preterm delivery (birth that happens 37 weeks before pregnancy) and low birth weight (when a baby is born weighing less than 5 pounds, 8 ounces), fetal growth restriction, prenatal death and neonatal death (CDC, 2023).

Types of High Blood Pressure Conditions before, during and after pregnancy

Chronic Hypertension: Chronic hypertension means having high blood pressure* before getting pregnant or 20 weeks before pregnancy. Women who have chronic hypertension can also get preeclampsia in the second or third trimester of pregnancy.

Gestational Hypertension: This condition happens when a women have high blood pressure* during pregnancy and do not have protein in the urine or other heart or kidney problems. It is typically diagnosed after 20 weeks of pregnancy or close to delivery. Gestational hypertension usually goes away after giving birth. However, some women with gestational hypertension have a higher risk of developing chronic hypertension in the future.

Preeclampsia/Eclampsia: Preeclampsia happens when a woman who previously had normal blood pressure suddenly develops high blood pressure* and protein in her urine or other problems after 20 weeks of pregnancy. Women who have chronic hypertension can also get preeclampsia.

Preeclampsia happens in about 1 in 25 pregnancies in the United States. Some women with preeclampsia can develop seizures. This is called eclampsia, which is a medical emergency. (CDC, 2023)

Symptoms of preeclampsia:

- Persistent headache
- Changes in vision, including blurry vision, seeing spots, or having changes in eyesight
- Pain in the upper stomach area
- Nausea or vomiting
- Swelling of the face or hands
- Sudden weight gain
- Trouble breathing

Who is at more risk for pre-eclampsia?

Those who: are giving birth for the first time; had pre-eclampsia during a previous pregnancy; have chronic (long-term) high blood pressure, chronic kidney disease, or both; have a history of thrombophilia (a condition that increases the risk of blood clots); are pregnant with multiple babies (such as twins or triplets); became pregnant using in vitro fertilization; have a family history of pre-eclampsia; have type 1 or type 2 diabetes; have obesity; have lupus (an autoimmune disease); and are older than 40 (CDC, 2023).

Resources for Hypertension during Pregnancy

- State of Illinois Maternal Health Innovation Program at the University of Illinois, Chicago [I PROMOTE-IL | Linktree](#)
- [Treating for two: Medicine and Pregnancy \(CDC\)](#)
- [Heart Health and Pregnancy \(National Heart, Lung, and Blood Institute\)](#)
- [Preeclampsia and Eclampsia. \(Eunice Kennedy Shriver National Institute of Child Health and Human Development\)](#)
- [Preeclampsia and High Blood Pressure during Pregnancy. \(American College of Obstetricians and Gynecologists\)](#)
- [High Blood Pressure during Pregnancy. \(March of Dimes\)](#)
- [High Blood Pressure during Pregnancy. \(CDC\)](#)
- Maternal & Child Health Leadership Competencies. (HRSA) [Maternal and Child Health Leadership Competencies | MCHB \(hrsa.gov\)](#)
- [Where You Live Matters: Maternity Care in Illinois](#)

- Toolkits to Reduce Hypertension in Pregnancy and Obstetric Hemorrhage. (AHRQ). [Toolkits To Reduce Hypertension in Pregnancy and Obstetric Hemorrhage | Agency for Healthcare Research and Quality \(ahrq.gov\)](#)
- Screening for Hypertensive Disorders of Pregnancy. [Recommendation: Hypertensive Disorders of Pregnancy: Screening | United States Preventive Services Taskforce \(uspreventiveservicestaskforce.org\)](#)

Maternal Morbidity and Mortality Report(s)

- [2023 Maternal Morbidity and Mortality Report](#)
- [Summary of 2023 Maternal Morbidity and Mortality Report](#)
- [2021 Maternal Morbidity and Mortality Report](#)
- [Summary of 2021 Maternal Morbidity and Mortality Report](#)
- [2018 Maternal Morbidity and Mortality Report](#)

References

CDC. (2023). High Blood Pressure during Pregnancy. Accessed from: <https://www.cdc.gov/bloodpressure/pregnancy.htm>

World Health Organization. Fact Sheets on Maternal Mortality. Accessed from: <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>

Kassebaum, N. J., Barber, R. M., Bhutta, Z. A., Dandona, L., Gething, P. W., Hay, S. I., ... & Ding, E. L. (2016). Global, regional, and national levels of maternal mortality, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The lancet*, 388(10053), 1775-1812.

American Heart Association. (2021). High blood pressure treatment in pregnancy is safe and could reduce mother's risks. Accessed from: <https://www.heart.org/en/news/2021/12/15/high-blood-pressure-treatment-in-pregnancy-is-safe-and-could-reduce-mothers-risks>

Garovic, V. D., Dechend, R., Easterling, T., Karumanchi, S. A., McMurtry Baird, S., Magee, L. A., ... & August, P. (2022). Hypertension in pregnancy: diagnosis, blood pressure goals, and pharmacotherapy: a scientific statement from the American Heart Association. *Hypertension*, 79(2), e21-e41.