

Detection and Management of Hypertensive Disorders of Pregnancy to Prevent Complications

Hypertensive disorders of pregnancy result in 12% of maternal deaths globally and up to 40% of maternal deaths in some countries.

These conditions can also impact the health of the fetus or newborn and are responsible for up to 13% of stillbirths and 20% of early neonatal deaths in some areas of the world.

The World Health Organization (WHO) estimates that 15% of women will have some degree of hypertension during pregnancy. Fortunately, most of these cases are benign and do not require treatment or result in complications. In some cases, however, the woman has a hypertensive disorder of pregnancy such as pre-eclampsia, which can lead to serious complications or death. The Maternal and Neonatal Health (MNH) Program is committed to reducing maternal and perinatal mortality due to hypertensive disorders of pregnancy. It is not possible to accurately predict which women will develop these conditions, nor is it clear if or how they can be prevented. The Program, therefore, promotes an approach that emphasizes early detection and skilled and timely management of hypertensive disorders of pregnancy to prevent complications.

Types of Hypertensive Disorders of Pregnancy

Hypertension during pregnancy is classified according to degree of high blood pressure, associated signs and symptoms, and time of onset during pregnancy.

- **Chronic hypertension:** high blood pressure detected before the first 20 weeks of gestation.
- **Pregnancy-induced hypertension (PIH):** high blood pressure that begins after 20 weeks of gestation and *is not* accompanied by protein in the urine (proteinuria).
- **Pre-eclampsia:** high blood pressure that begins after 20 weeks of gestation and *is* accompanied by proteinuria; may be mild or severe, depending on the degree of high blood pressure or the presence of other signs and symptoms, including epigastric pain, severe headache and blurred vision, among others; **severe pre-eclampsia** can result in stroke, bleeding disorders and death.

- **Eclampsia:** a life-threatening condition defined by the presence of convulsions, typically (but not always) preceded by pre-eclampsia.

Preventing Complications of Pre-eclampsia

The MNH Program promotes focused antenatal care (another **MNH Best Practice**), including evaluation of the woman's blood pressure at every antenatal visit, as the best way to facilitate early detection of hypertensive disorders of pregnancy. The appropriate management of PIH and pre-eclampsia is critical to preventing the complications of pre-eclampsia. Appropriate management may include the following:

- Close monitoring to identify progression to pre-eclampsia—women with PIH require weekly monitoring of blood pressure, urine and fetal condition.
- Health messages and counseling for the woman and her family—education can increase social support for women with PIH when hospitalization or a decrease in workload is necessary. Women with PIH should be encouraged to eat a normal diet with no restrictions on calorie, fluid or salt intake; such restrictions do not prevent pre-eclampsia and may be harmful to the fetus.
- Treatments to prevent convulsions, coma, stroke and other serious complications.
- Special arrangements for childbirth—for women with pre-eclampsia, a decision must be made about timing of delivery, based on the health of the mother and baby and the gestational age of the pregnancy.

The onset of severe pre-eclampsia or eclampsia can be very sudden and occur without warning. For this reason, all pregnant women and their families should be able to recognize the danger

signs of pre-eclampsia—severe headache, blurred vision, abdominal pain or swelling—and have a plan for how to reach the hospital if a danger sign arises.

Managing Severe Pre-eclampsia and Eclampsia

Because severe pre-eclampsia and eclampsia are life-threatening complications, women suspected of having either condition should receive immediate and continuous attention at a hospital. Appropriate management of these complications may include the following:

- Giving magnesium sulfate to the woman to prevent the occurrence/recurrence of convulsions. Diazepam is not as effective for preventing convulsions.
- Controlling the woman's blood pressure using drugs such as hydralazine, labetalol or nifedipine.
- Delivering the baby after the woman's condition is stabilized, regardless of fetal maturity. Delaying delivery to allow the fetus to mature only risks the lives of the mother and fetus. Delivery should take place within 24 hours of initiation of management in severe pre-eclampsia and within 12 hours of initiation of management in eclampsia.
- Monitoring the woman closely to detect and facilitate the management of complications in the renal (kidneys), hepatic (liver), circulatory (blood) or respiratory (lungs) systems.

MNH Program Activities in Support of this Best Practice

The MNH Program is currently working to train and update healthcare providers in the early detection and skilled and timely management of hypertensive disorders of pregnancy. Specifically, these activities include:

- Developing global, regional and national standards and guidelines for the detection and management of hypertensive disorders of pregnancy. *Managing Complications in Pregnancy and Childbirth*—a manual developed by WHO with technical assistance from the MNH Program—sets the standards for diagnosing and managing these conditions and related complications. The manual *Basic Maternal and Newborn Care*—currently in development by the

MNH Program with input from the American College of Nurse-Midwives (ACNM) and BASICS (Basic Support for Institutionalizing Child Survival)—provides more detailed information on detecting signs and symptoms of hypertensive disorders during the antenatal period and on educating women and their families on associated danger signs and complication readiness.

- Conducting technical knowledge updates—for maternal healthcare providers, trainers and policymakers—that review the latest evidence for the appropriate management of hypertensive disorders of pregnancy, including specific treatment protocols such as the use of magnesium sulfate for the prevention and treatment of convulsions.
- Conducting training in preservice programs to teach nursing, midwifery and medical students how to detect and manage hypertensive disorders of pregnancy and related complications.
- Conducting training for clinicians: clinical skills standardization courses to teach them to detect and manage hypertensive disorders of pregnancy and related complications; and clinical training skills courses to enable them to share this knowledge with other clinicians.
- Developing job aids that provide critical information on managing/detecting hypertensive disorders of pregnancy in a concise format for easy use in clinical settings.

The MNH Program also supports social mobilization efforts to educate community members on taking appropriate actions when a woman presents with danger signs of a hypertensive disorder of pregnancy.

Finally, the MNH Program is currently assessing the impact of hospital protocols for managing hypertensive disorders of pregnancy. For example, one study compares the care of women before and after management protocols were implemented in two hospitals in Honduras; it will determine how implementation of a standardized protocol has affected the outcomes of women with hypertensive disorders of pregnancy. The results of this study will guide the development and implementation of additional protocols for the management of other maternal and neonatal complications.

For more information about the MNH Program visit our website:
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