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# Knowledge and practices for pre-eclampsia and eclampsia care in Bangladesh

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## KNOWLEDGE AND PRACTICES FOR PRE-ECLAMPSIA AND ECLAMPSIA CARE

Pre-eclampsia is a leading cause of maternal and newborn morbidity and mortality worldwide. In Bangladesh, it is the second most common direct cause of maternal deaths. The Bangladesh Maternal Mortality Survey revealed that 20 percent - between 1,000 and 1,200 maternal deaths - are from pre-eclampsia and eclampsia (PE/E) each year.

Early detection and treatment during antenatal care (ANC) visits are instrumental in reducing deaths from PE/E. In Bangladesh, however, primary health care (PHC) providers have limited knowledge of the condition, and in many cases are unaware of how to detect, manage, and treat it. This knowledge gap contributes to the high prevalence of PE/E-related deaths.

## RESEARCH

This research brief presents the findings of a landscape analysis that was conducted to better understand service providers' maternal health knowledge, attitudes, and practices, particularly around PE/E.

Population Council researchers, in four districts and 12 upazilas, interviewed 289 service providers from 134 facilities. Among these service providers 79 were doctors, including those working in the maternal and child health unit. Researchers interviewed 210 other providers, which included family welfare visitors (FWV), sub-assistant community medical officers (SACMO), nurses, and medical assistants.

## Recommendations

- Train and update service providers from all levels of the health system on broader MNH issues, particularly PE/E.
- Available PE/E management protocol at facilities.
- Organize competency based training for all PHC providers, with a refresher training after three months.
- Screen every patient in antenatal, delivery, and postnatal for increased blood pressure and assess for PE/E risk.
- Review and revise curricula to include PE/E for nurses, midwives, FWVs, SACMOs and other paramedics.
- Providers should know of the antihypertensive and anticonvulsant drugs.
- A checklist can be used in facilities to assess PE/E risk and initiate prevention using calcium and aspirin.

## FINDINGS

### *Service provider knowledge on detecting hypertension*

Eighty-four percent of doctors and 79 percent of other providers can correctly define hypertension as systolic blood pressure of  $\geq 140$  mmHg and/or diastolic blood pressure of  $\geq 90$  mmHg. Seventeen percent of doctors and 22 percent of service providers are confused about the definition of hypertension.

All service providers were requested to identify signs and symptoms of pre-eclampsia, severe pre-eclampsia, and eclampsia. Results show that doctors have a strong understanding and other service providers had reasonably good knowledge of the signs and symptoms of PE, severe PE and eclampsia, including upper abdominal pain, headache, and blurred vision. They also mentioned some less important signs and symptoms, such as weight gain and oedema.

### *Knowledge and practice for PE prevention*

Researchers assessed service provider's knowledge of risk factors of pre-eclampsia, including history of hypertension, diabetes, extreme maternal age (<20 or >35 years). Only 1.87 percent of providers observed in primary and secondary facilities looked for pre-eclampsia risk factors during antenatal care visits.

Researchers investigated service provider knowledge on prophylactic drugs, such as calcium supplements or low-dose aspirin, and found only 6 percent of doctors and no other providers are aware of the use of aspirin supplements to prevent pre-eclampsia.

No providers mentioned calcium supplements as prophylaxis, most likely because the drug is already regularly given during ANC. About 20 percent of doctors and 3 percent of other providers mentioned other drugs as prophylaxis, or said that they did not know of any prophylactic drugs, indicating confusion about prevention measures.

### *Knowledge and practices for managing PE/E*

Researchers asked about commonly used antihypertensive drugs for managing mild, moderate, and severe hypertension in pregnancy. They also questioned providers about the appropriate blood pressure levels for administration of antihypertensive drugs.

About 77 percent of doctors and 19 percent of other service providers mentioned methyldopa or nifedipine as the drugs of choice for managing mild to moderate hypertension. Only 9 percent of doctors, and no other providers, mentioned hydralazine to manage hypertension.

### *Knowledge, attitudes, and practices for use of MgSO<sub>4</sub>*

Service providers were asked to demonstrate their knowledge of the loading and maintenance doses of MgSO<sub>4</sub> according to the Pritchard Regimen. Findings suggest that 35 percent of doctors and 1 percent of other providers know the correct loading dose of MgSO<sub>4</sub> to be administered, and 36 percent of doctors and 1 percent of other service providers know the correct maintenance doses.

Although rare, toxicity of MgSO<sub>4</sub> may occur, in which case calcium gluconate is the antidote. All service providers were asked if they knew of any drug used to treat toxicity, and only 30 percent of doctors and less than 1 percent of other providers know calcium gluconate as the remedy.

### *Provider use of MgSO<sub>4</sub>*

Researchers asked service providers about their current use of MgSO<sub>4</sub>, its supply and availability at facilities, alternative drugs used to control seizures, and barriers to MgSO<sub>4</sub> use. Only 37 percent of doctors and 4 percent of other providers reported they currently use MgSO<sub>4</sub>. Thirty three percent of providers reported sufficient supply, 5 percent overall reported inadequate supply, and the remaining 62 percent of providers reported none.

About 71 percent of doctors and 35 percent of other service providers mentioned some barriers to administering the loading dose of MgSO<sub>4</sub> to severe PE/E patients at primary facilities. Those barriers included the lack of training, lack of knowledge of side effects, lack of equipment or supplies, need for doctor supervision, fear of community reaction if patients were to die after use of MgSO<sub>4</sub> and lack of proper monitoring.

About 39 percent of doctors and 4 percent of other providers use alternative drugs - diazepam and phenytoin - for controlling convulsions. Among those who reported using alternative drugs, 58 percent of doctors and 63 percent of other providers use an appropriate, though less safe and effective, alternative like diazepam.

Providers must be given more autonomy if they are to reduce PE/E-related deaths. With stronger knowledge of detection, prevention and management using antihypertensive drugs and MgSO<sub>4</sub>, providers at all levels of the health system can save the lives of women and babies.

## FOR MORE INFORMATION

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For more information, visit [www.endingeclampsia.org](http://www.endingeclampsia.org).

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