Pre-eclampsia and Eclampsia: Prevention and Management: Quality of Care in Madagascar

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Introduction

- This assessment provides the first data regarding quality of actual PE/E-related practices in Madagascar.
- This analysis focuses on facility readiness, provider knowledge, and interventions related to pre-eclampsia and eclampsia (PE/E).
Context

- Population: 20 M
- DHS IV
  - TFR: 4.8
  - CPR: 40% / Modern method: 29%
  - ANC: 86% at least one
  - MMR: 498 deaths per 100000 live births
  - Home delivery: 64%
- EMONC survey 2010
  - Major causes of maternal death
    - Hemorrhage: 38.89%
    - Prolonged labor: 22.22% PE/E
    - Infection: 20.37%
    - PE/E: 14.81%
Objective

- To provide information on quality of prevention and management interventions in facility-based care that address maternal complications.
Materials and Methods

- A cross-sectional national assessment in facilities with higher caseload of birth (>2 per day)

- Descriptive statistical analysis was conducted
  - Inventories: 36 facilities
  - Interview: 139 providers, largely midwives
  - Observations: 323 ANC consultations and 347 labor & delivery (L&D) mostly in hospitals.

- Review of Data from observation of each of 10 suspected PE/E cases.
Results (1)

- **Inventory**
  - The mean score for availability of drugs, supplies, and equipment related to PE/E was 63%,
  - Injectable anticonvulsants were available in 72% of L&D wards,
  - Magnesium sulphate (MgSO4) and antihypertensives were available in only half of facilities.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N=36 Facilities</th>
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</thead>
<tbody>
<tr>
<td>Availability of injectable anticonvulsant in L&amp;D ward</td>
<td>72%</td>
</tr>
<tr>
<td>Availability of MgSO4</td>
<td>47%</td>
</tr>
<tr>
<td>Availability of calcium gluconate/lidocaine</td>
<td>53%</td>
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<tr>
<td>Availability of antihypertensives</td>
<td>50%</td>
</tr>
<tr>
<td>Mean score for availability of drugs/equipment related to PE/E (e.g., anticonvulsants, antihypertensives, syringes)</td>
<td>63%</td>
</tr>
<tr>
<td>Functioning BP apparatus</td>
<td>82%</td>
</tr>
<tr>
<td>Use of parenteral anticonvulsants in past 3 months</td>
<td>53%</td>
</tr>
</tbody>
</table>
Results (2)

- Provider knowledge
  - Nearly all providers interviewed correctly identified a PE/E diagnosis on case scenario,
  - Overall mean score on examination, diagnosis, and management was 51%, and
  - Only a third of providers knew to stabilize with MgSO4 and antihypertensives.
Results (3)

- **Observation**
  - Nearly all ANC clients had blood pressure (BP) taken and were asked about danger signs of PE/E,
  - only half of cases had BP taken with correct technique, and just 29% received a urine test.
  - Multigravidae women were rarely asked about convulsions or hypertension in prior pregnancies.
  - PE/E screening was performed less often in L&D than in ANC.
Results (4)

- **PE/E cases observed**
  - MgSO4 was available in 4 of 7 facilities where suspected PE/E cases were observed.
  - MgSO4 was not administered in any of these cases, and diazepam was administered in 5 cases.
  - One case experienced convulsions: MgSO4 was reportedly available but not administered.

<table>
<thead>
<tr>
<th>Observation</th>
<th>Number</th>
</tr>
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<tbody>
<tr>
<td>Convulsing or conscious</td>
<td>1</td>
</tr>
<tr>
<td>Magnesium sulfate administered</td>
<td>0</td>
</tr>
<tr>
<td>Diazepam administered</td>
<td>5</td>
</tr>
<tr>
<td>Antihypertensive administered</td>
<td>2</td>
</tr>
<tr>
<td>Maternal deaths</td>
<td>0</td>
</tr>
<tr>
<td>Newborn deaths</td>
<td>1</td>
</tr>
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</table>
Conclusions

- Correct practices in ANC regarding PE/E screening/detection and management in L&D using MgSO4 and antihypertensives urgently need to be adopted.
- Providers need support to ensure complete provision of PE/E interventions.
- Recommendations include making an operational plan related to PE/E from policy documents, ensuring adequate supply of MgSO4, related drugs, and visible job aids at each facility, and sustained training and regular supervision of providers.
- All effective antihypertensives need to be on the Essential Drug List.


Bibliography