

11.12. EVIDENCE BASE:

Should NURSES deliver magnesium sulphate to women in preterm labour as a neuroprotective for the foetus?

Problem: Poor access to treatment for preterm birth
Option: Nurses delivering magnesium sulphate for preterm labour
Comparison: Care delivered by other cadres or no care
Setting: Community/primary health care settings in LMICs with poor access to health professionals

CRITERIA	JUDGEMENT	EVIDENCE	COMMENTS AND QUERIES															
BENEFITS & HARMS OF THE OPTIONS	<p>Are the anticipated desirable effects large?</p> <p>No <input type="checkbox"/> Probably no <input type="checkbox"/> Uncertain <input checked="" type="checkbox"/> Probably Yes <input type="checkbox"/> Yes <input type="checkbox"/> Varies <input type="checkbox"/></p>	<p>One systematic review searched for studies that assessed the effects of nurse-led primary care compared to care that was given by primary care doctors (Laurant 2012). However, this review did not identify any studies that specifically assessed the effects of nurses delivering magnesium sulphate. We are therefore unable to draw any conclusions about the desirable or undesirable effects of this intervention.</p> <p>Indirect evidence: The review did identify a number of studies, mostly from high income settings, where nurses were compared to doctors for the delivery of other types of interventions. issues. The review suggests that nurse care may improve several health outcomes while it may make no difference to other outcomes. However, the certainty of this evidence varies.</p> <table border="1"> <thead> <tr> <th>Outcomes</th> <th>Impacts</th> <th>Certainty of the anticipated effect</th> </tr> </thead> <tbody> <tr> <td><i>Patient health status</i></td> <td>For some outcomes, benefits in favour of nurses. For other outcomes, no differences between nurses and doctors</td> <td>Very low to moderate</td> </tr> <tr> <td><i>Patient mortality</i></td> <td>No differences between nurses and primary care doctors</td> <td>Moderate</td> </tr> <tr> <td><i>Process of care</i></td> <td>Mixed results: some studies showed differences between nurses and primary care doctors in process of care, e.g. nurses gave more advice to patients, while others showed no differences</td> <td>Very low to moderate</td> </tr> <tr> <td><i>Patient satisfaction and preferences</i></td> <td>Patients were significantly more satisfied with nurses compared with primary care doctors. Also, patients preferred significantly more often to see a nurse rather than a primary care doctor.</td> <td>Very low to moderate</td> </tr> </tbody> </table> <p>Annex: page 6 (Laurant 2012)</p>	Outcomes	Impacts	Certainty of the anticipated effect	<i>Patient health status</i>	For some outcomes, benefits in favour of nurses. For other outcomes, no differences between nurses and doctors	Very low to moderate	<i>Patient mortality</i>	No differences between nurses and primary care doctors	Moderate	<i>Process of care</i>	Mixed results: some studies showed differences between nurses and primary care doctors in process of care, e.g. nurses gave more advice to patients, while others showed no differences	Very low to moderate	<i>Patient satisfaction and preferences</i>	Patients were significantly more satisfied with nurses compared with primary care doctors. Also, patients preferred significantly more often to see a nurse rather than a primary care doctor.	Very low to moderate	
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<p>Are the desirable effects large relative to the undesirable effects?</p> <p>No <input type="checkbox"/> Probably no <input type="checkbox"/> Uncertain <input checked="" type="checkbox"/> Probably yes <input type="checkbox"/> Yes <input type="checkbox"/> Varies <input type="checkbox"/></p>																		
RESOURCE USE	<p>Are the resources required small?</p> <p>No <input type="checkbox"/> Probably no <input type="checkbox"/> Uncertain <input type="checkbox"/> Probably yes <input type="checkbox"/> Yes <input type="checkbox"/> Varies <input type="checkbox"/></p>	<p>Main resource requirements</p> <table border="1"> <thead> <tr> <th>Resource</th> <th>Settings in which nurses already provide other care</th> </tr> </thead> <tbody> <tr> <td><i>Training</i></td> <td>E.g. 2 weeks of training to diagnosis pre-term labour, gestational age and, for magnesium sulphate, be given skills to safely administer and monitor treatment</td> </tr> <tr> <td><i>Supervision and monitoring</i></td> <td>Regular supervision by senior midwife or doctor</td> </tr> <tr> <td><i>Supplies</i></td> <td>Magnesium sulphate, IV equipment</td> </tr> <tr> <td><i>Referral</i></td> <td>Transportation to a centre where comprehensive emergency obstetric care (CeMOC) is available</td> </tr> </tbody> </table>	Resource	Settings in which nurses already provide other care	<i>Training</i>	E.g. 2 weeks of training to diagnosis pre-term labour, gestational age and, for magnesium sulphate, be given skills to safely administer and monitor treatment	<i>Supervision and monitoring</i>	Regular supervision by senior midwife or doctor	<i>Supplies</i>	Magnesium sulphate, IV equipment	<i>Referral</i>	Transportation to a centre where comprehensive emergency obstetric care (CeMOC) is available						
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	Is the incremental cost small relative to the benefits?	<p>No <input type="checkbox"/> Probably no <input type="checkbox"/> Uncertain <input checked="" type="checkbox"/> Probably yes <input type="checkbox"/> Yes <input type="checkbox"/> Varies <input type="checkbox"/></p>	<p>Uncertain as there is no direct evidence on effectiveness. Indirect evidence from the review referred to above (Laurant 2012) suggests that, compared to doctor-led care:</p> <ul style="list-style-type: none"> • Overall, studies showed lower costs for nurse-led care • Consultation length was longer for nurses • For the frequency of consultations, results were mixed • For most studies there were no differences in the use of healthcare services and prescriptions 	
ACCEPTABILITY	Is the option acceptable to most stakeholders?	<p>No <input type="checkbox"/> Probably no <input type="checkbox"/> Uncertain <input type="checkbox"/> Probably yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Varies <input type="checkbox"/></p>	<p>A systematic review of doctor-nurse substitution (Rashidian 2012) did not identify any studies that evaluated the acceptability of magnesium sulphate or corticosteroids for preterm birth when delivered by nurses. We are therefore uncertain about the acceptability of these interventions to key stakeholders.</p> <p>Indirect evidence: For other maternal and child health interventions, the same review suggests that:</p> <ul style="list-style-type: none"> • Nurses may be motivated to offer advanced care by increased recognition and job satisfaction (moderate certainty evidence) • Recipients may regard nurses as more accessible and better at listening and caring than doctors (moderate certainty evidence). However, some recipients may have concerns about nurses' competence and willingness to provide high quality care compared to doctors (low certainty evidence). In addition, for tasks that are more "medical" in nature, recipients may prefer doctors over nurses (low certainty evidence) • Doctors were generally satisfied with the contribution of nurses to maternal and child health care, although some concerns were raised (low certainty evidence). Doctors may welcome the contribution of nurses where it reduces doctors' workloads (moderate certainty evidence). Doctor acceptance may be influenced by level of nurse experience (low certainty evidence). Doctors may be comfortable with nurse prescribing, believing that it improves continuity of care (low certainty evidence). However, an increase in nurse autonomy may negatively affect or produce negative reactions among other professions, including doctors and midwives, who for instance may be unwilling relinquish final responsibility for patient care. A lack of clarity about nurse roles and responsibilities in relation to other health workers may also be a challenge (low certainty evidence) <p>Annex: page 43 (Rashidian 2012)</p>	
FEASIBILITY	Is the option feasible to implement?	<p>No <input type="checkbox"/> Probably no <input type="checkbox"/> Uncertain <input type="checkbox"/> Probably yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Varies <input type="checkbox"/></p>	<p>The intervention requires relatively few supplies (magnesium sulphate and to IV equipment). In addition, it is simple to deliver.</p> <p>The intervention requires some training. Regular supervision needs to be in place, and adequate referral to a higher level of care for further management may also be necessary. However, a systematic review (Rashidian 2012) suggests that nurses may be unprepared or not adequately trained or supervised when they are given advanced and substitution roles (low certainty). In some settings, changes to norms or regulations may be needed to allow nurses to prescribe and deliver magnesium sulphate.</p> <p>Annex: page 43 (Rashidian 2012)</p>	