Aim

- To standardise practice of Therapeutic Hypothermia (TH) using whole body cooling (WBC) in a limited resource setting and align care with international evidence based best practice
- Provide safe and effective treatment for term infants (>37 weeks) with Hypoxic Ischaemic Encephalopathy (HIE) to minimize the risk or severity of negative short term and long term mortality and neurodevelopmental outcomes

Background

- Neonatal mortality rate in Namibia currently stands at 19/1000 live births
- 39.8% of neonatal deaths in Namibia are attributed to birth asphyxia

TH in asphyxiated newborns

TH maintains core body temperature at 33.5°C for 72 hrs in newborns (<6hrs of age) with birth asphyxia for the benefit of:
- Significant reduction in death or major neurodevelopmental disability in survivors of TH [RR 0.75 (95% CI 0.68-0.83)]
- Significant reduction in mortality after receiving TH [RR 0.75 (95% CI 0.64-0.88)]
- Significant reduction in severe neurodevelopmental disability after receiving TH [RR 0.24 (95% CI 0.06-0.92)]

Timeline for HIE and TH

<table>
<thead>
<tr>
<th>HIE Progression</th>
<th>Timeline</th>
<th>TH Intervention</th>
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</thead>
<tbody>
<tr>
<td>Initial hypoxic insult</td>
<td>6 hrs</td>
<td>Primary Prevention</td>
</tr>
<tr>
<td>Primary energy failure</td>
<td>80 hrs</td>
<td>Early TH intervention improves outcomes</td>
</tr>
<tr>
<td>Secondary energy failure</td>
<td>88 hrs</td>
<td>Strict temp control at 33.5°C</td>
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<tr>
<td>Recovery</td>
<td>up to 18-24 mo</td>
<td>Active TH</td>
</tr>
<tr>
<td>Long Term outcome</td>
<td></td>
<td>Rewarming</td>
</tr>
<tr>
<td></td>
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<td>Health Education / discharge Follow-up plans: Short &amp; long term</td>
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</tbody>
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Limitations of limited resource settings

- Poor antenatal and obstetric history may have a confounding negative effect on longterm outcomes
- Multidisciplinary team involvement and intensive care support are necessary to ensure optimal TH management but are unavailable in some settings
- The effect of sepsis on outcomes of TH is unknown

References:
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