BACKGROUND AND JUSTIFICATION

- Every year globally an estimated 15 million babies are born preterm; of these 85% are late preterm (32 to <37 weeks) and this number is rising.
- In Kenya, neonatal mortality contributes to 42% of the infant mortality; of the neonatal deaths 35% are due to preterm.
- Late preterm neonates can survive through universal coverage and low cost interventions.
- This study sought to assess whether early recognition of late preterms by postnatal gestational age assignment training would improve newborn care and outcomes.

OBJECTIVES

Primary Objective
- To determine the effect of training health care providers using the New Ballard score and Intergrowth 21st charts on their ability to accurately assess the gestational age of newborns.

Secondary Objectives
- Determine the effect of training health care providers on newborn care and management decisions
- Specifically
  - Implementation of ETAT+ guidelines
  - Care of the late preterms

METHODS

Study Design: Quasi experimental design-comparison of before and after (without randomization) and qualitative aspect

Study Site:
- Migori County Referral Hospital
- Health care sites in Migori County

Study population:
- 1. Health care providers (Maternity,NBU,MCH)
- 2. Mother baby pairs (n=47 each phase: pre and post training)

RESULTS

Table 1: Characteristics of Healthcare Providers

<table>
<thead>
<tr>
<th>Cadre</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered clinical officer</td>
<td>3</td>
<td>9.68</td>
</tr>
<tr>
<td>Clinical officer intern</td>
<td>3</td>
<td>9.68</td>
</tr>
<tr>
<td>Qualified registered nurse</td>
<td>15</td>
<td>48.39</td>
</tr>
<tr>
<td>Training student</td>
<td>6</td>
<td>19.35</td>
</tr>
<tr>
<td>Medical Doctor</td>
<td>2</td>
<td>6.45</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>6.45</td>
</tr>
</tbody>
</table>

Table 2: Newborn Characteristics

<table>
<thead>
<tr>
<th>INDICATOR VARIABLE</th>
<th>POST TRAINING</th>
<th>POST TRAINING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head circumference (cm)</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Height Weight (Grams)</td>
<td>1607</td>
<td>1607</td>
</tr>
<tr>
<td>Length (cm)</td>
<td>41</td>
<td>41</td>
</tr>
</tbody>
</table>

Pre intervention:
- Majority of health care providers who received training were nurse midwives
- Missed opportunity: Head circumference and full length not taken/recorded in paragraph in pre intervention period

Figure 1: Comparison of Anthropometry Pre-and Post-Training

Figure 2: Comparison of adherence to ETAT guidelines

Table 3: Post-Training: Accuracy of Management Plans

<table>
<thead>
<tr>
<th>Care selection Plan</th>
<th>Accuracy (%)</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>(3.4 - 44.6)</td>
<td></td>
</tr>
<tr>
<td>1st preterm prech hour admission</td>
<td>3(12.34)</td>
<td>(3.3 - 38.08)</td>
</tr>
<tr>
<td>2nd preterm admission for care MCH</td>
<td>40.70</td>
<td>(3.2 - 21.7)</td>
</tr>
<tr>
<td>3rd Admission (Late referral)</td>
<td>41.17</td>
<td>(15.31 - 72.3)</td>
</tr>
</tbody>
</table>

Figure 3: Health care provider confidence distinguishing LBW

After training: majority of health care providers felt confident distinguishing low birth weight newborns as late preterm from term IUGR for management

CONCLUSIONS AND LIMITATIONS

- Training health providers on gestational age assessment improved newborn care.
- Health care providers were able to classify babies based on maturity and anthropometry which they were not doing previously.
- Classification of babies guided their decisions on management and improved newborn care.
- Limitations:
  - Missing data from retrospective health records was difficult to account for and assumptions had to be made.

RECOMMENDATIONS

- Adopt postnatal gestational age assessment adoption as part of standard early newborn care by midwives to strengthen better management decisions.
- Train health care providers to use postnatal gestational age assessment to ensure identification of late preterms for cost effective interventions that can be continued at home and improve newborn outcomes
- Growth monitoring for preterm newborns should be tailored to each individual baby using intergrowth 21st anthropometry charts that can be adopted into the Kenyan ministry of health mother child booklet for better outcomes.

REFERENCES


ACKNOWLEDGEMENTS

- Bill and Melinda Gates Foundation’s funding through CBSP and K2011
- University of California San Francisco for providing training materials
- Kenya Medical Research Institute Nairobi and Migori staff for both technical and psychological support PTB
- Migori County Health management team and Hospital staff for their work
- Prof. Musoke and Dr. Murila (UoN) for support