



University of Nairobi

# EFFECT OF POST NATAL GESTATIONAL AGE ASSESSMENT TRAINING OF HEALTH CARE PROVIDERS ON NEWBORN CARE PRACTICES IN MIGORI COUNTY (A Nested Study )

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## 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.<sup>1</sup>
- In Kenya, neonatal mortality contributes to 42% of the infant mortality; of the neonatal deaths 35% are due to preterm.<sup>2</sup>
- Late preterm neonates can survive through universal coverage and low cost interventions.<sup>3</sup>
- This study sought to assess whether early recognition of late preterms by post-natal gestational age assessment 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 21<sup>st</sup> 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

**Study population:** 1.Health Care providers(Maternity,NBU,MCH)

2.Mother baby pairs (n=47 each phase: pre and post training)

Pre Intervention	Intervention:	Post Intervention
Baseline survey of healthcare providers and health records of mother baby pairs	CME,video assisted training on how to use tools, practical bedside demonstration by doctor	Assessment of effect(health records review; focused group discussions)

### Study data analysis:

- Descriptive statistics, cross tabulation to compare accuracy of health care provider to gold standard, generated percentage accuracy and 95%confidence intervals
- Qualitative-Exploration for themes and quotes

## RESULTS

**Table 1: Characteristics of Healthcare Providers**

INDICATOR VARIABLE	N (31)	
	Frequency	%
Cadre		
Registered clinical officer	3	9.68
Clinical officer Intern	3	9.68
Qualified registered nurse	15	48.39
Nursing student	6	19.35
Medical Doctor	2	6.45
No response	2	6.45

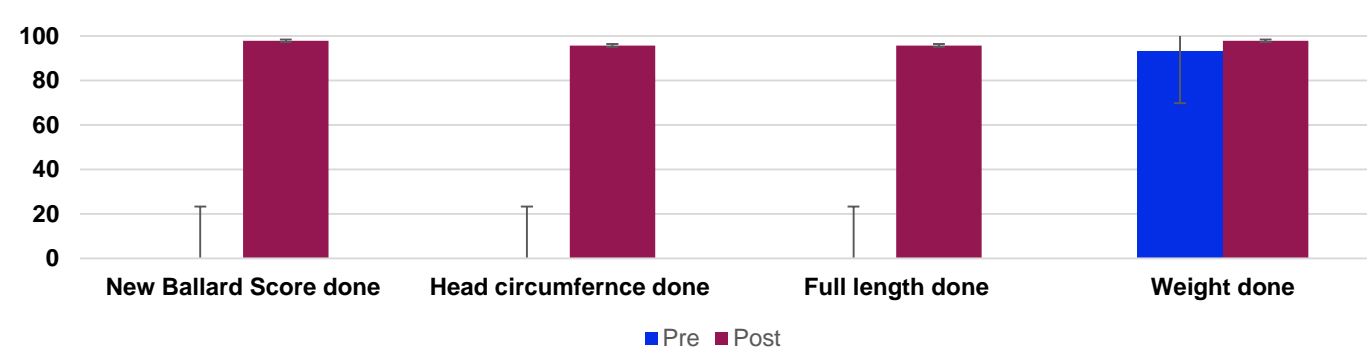
**Table 2: Newborn Characteristics**

INDICATOR VARIABLE	POST TRAINING Mean
Anthropometry (integrowth 21st)	
Mean head circumference (cm)	30
Mean Weight (Grams)	1607
Length (cm)	41

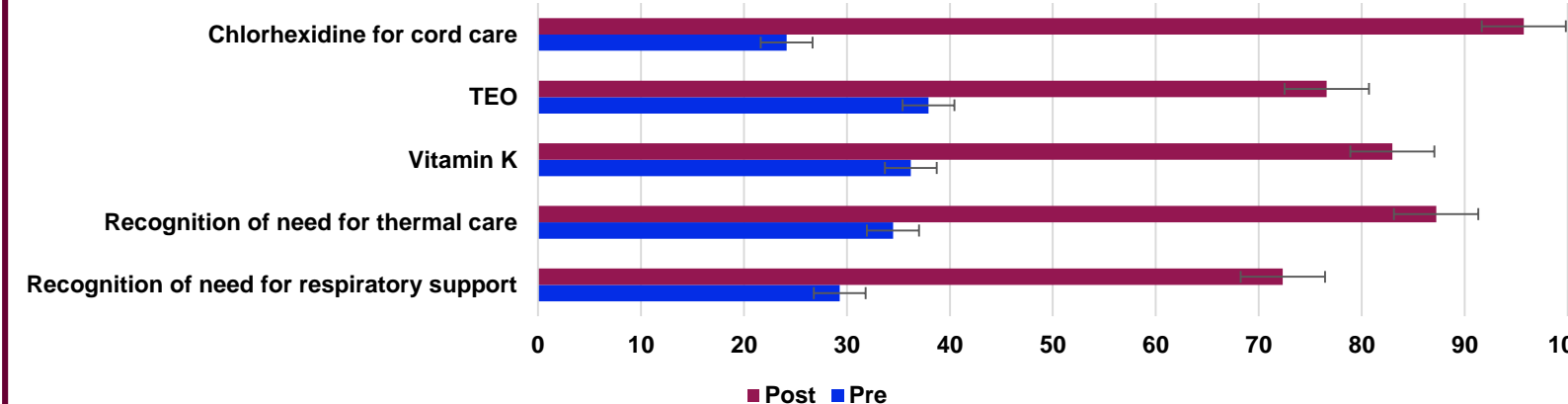
Pre intervention:

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

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



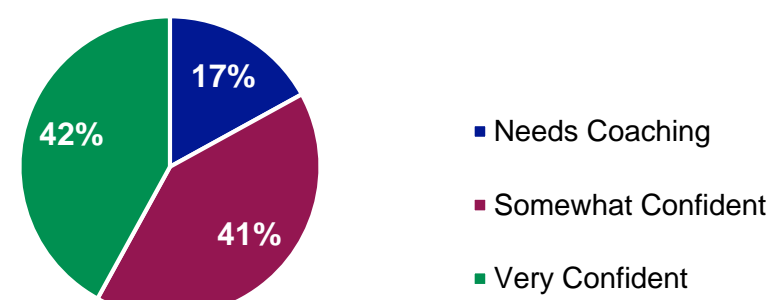
**Figure 2:Comparison of adherence to ETAT guidelines**



**Table 3: Post-Training: Accuracy of Management Plans**

Care Selection Plan	Accuracy n (%)	95% CI
Overall	23(50.00)	(35.4-64.6)
1(Late preterm use discharge criteria)	11(23.91)	(13.5-38.9)
2(Very preterm-Admit for care MCRH)	4(8.70)	(3.2-21.7)
3(Extreme:Admit,anticipate referral)	8(17.39)	(8.7-31.7)

**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

## RESULTS

**Table 4: Pre- and Post-Intervention Focus Groups**

### PRE-INTERVENTION:

... Finding out the age at which a baby has been born to guide/plan for management can be done... (HCP, Pre-training ID1)

...To me it is important because it helps us as health workers to know the condition of the mother and the fetus, in case we detect any problem it can be easy for us to refer the mother for more medical assistance... (HCW, Pre-training FDG1)

### POST INTERVENTION:

I think not all newborns require similar care so the gestation may help us on how to give care to that particular baby. Like a term baby may just need the routine care then discharged home, a preterm you may need to do (unclear) like stable late preterm you can work on kangaroo and other things while a severely preterm you may need to admit in nursery and do MUAC (HCW post training FDG1)

## 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 post natal gestational age assessment adoption as part of standard early newborn care by midwives to strengthen better management decisions.
- ✓ Train health care providers to use post natal 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 21<sup>st</sup> anthropometry charts that can be adopted into the Kenyan ministry of health mother child booklet for better outcomes.

## REFERENCES

- 1.Blencowe H, Cousens S, Oestergaard M, Chou D, Moller AB, Narwal R, Adler A, Garcia CV, Rohde S, Say L, Lawn JE. National, regional and worldwide estimates of preterm birth. The Lancet, June 2012. 9;379(9832):2162-7
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- 3.WHO. Preterm birth fact sheet 2015. <http://www.who.int/mediacentre/factsheets/fs363/en/>;

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