

The impact of an initial-setpoint prediction tool for prompt attainment of stability during neonatal incubator care – a comparative study

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Any hope for the Nigerian neonates?

NIGERIA

- Has leading NNMR globally
- Has been aware of this for decades
- Published well over 60 journal articles by academicians from every region since 1990
- Relied so much on imported ideas to reduce NNMR
- Spent good amount of MDG funds since 1990

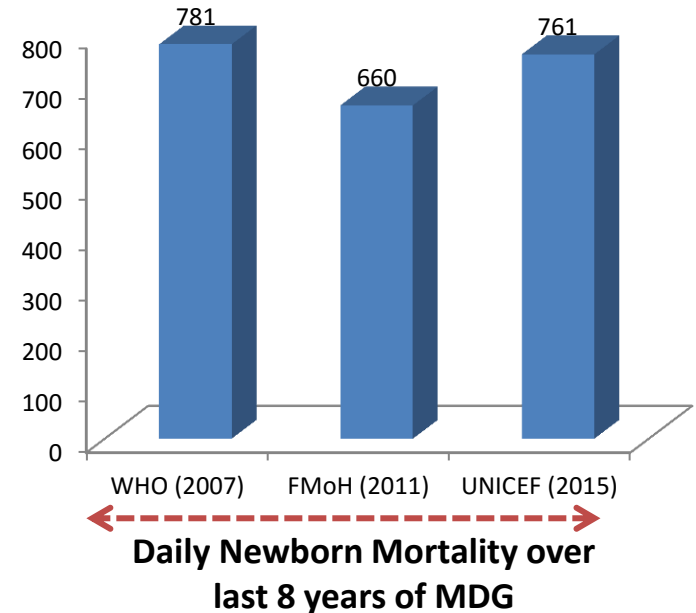
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YET

- No significant impact made (WHO, UNICEF)
- This is a colossal failure
- Reflects true picture from most PHCs, FMCs & THs
- Shows intervention techniques grossly ineffective



UATH, exhibited same scenario (2005 – 2010 data)

- Referral SCBUs same scenario
- So, arguments about poor PHCs should be secondary, really

GREATEST RISK GROUP

- Extremely-LBW (< 1000 g)
- Very-LBW (1000 g – 1500 g)

FROM PREVIOUS INVESTIGATIONS

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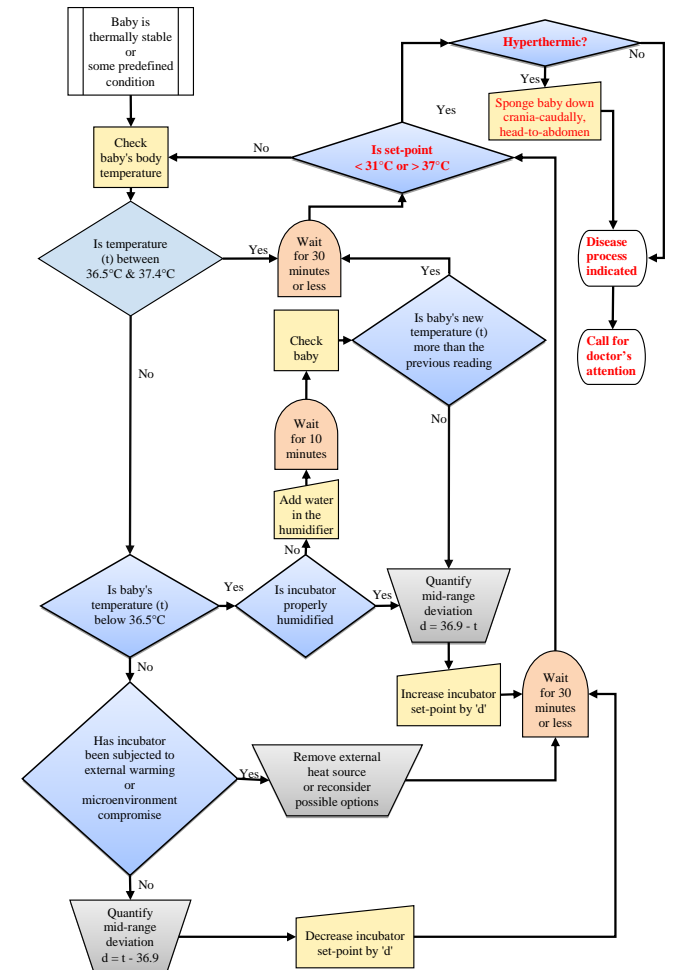
- Okechukwu & Achonwa – DATA: 2005-2006
- Onalo & Olateju - DATA: 2006-2010
 - NNMR – no significant improvement
 - Despite recommendations by O&A(2009)



STUDY AIM – to apply new thermocontrol techniques and compare outcomes

UATH, Drastic actions on temperature control

- Initiated the application of the Handy-approach (Amadi 2012, Intech Tropical Medicine)
- Handy-Approach marginally successful

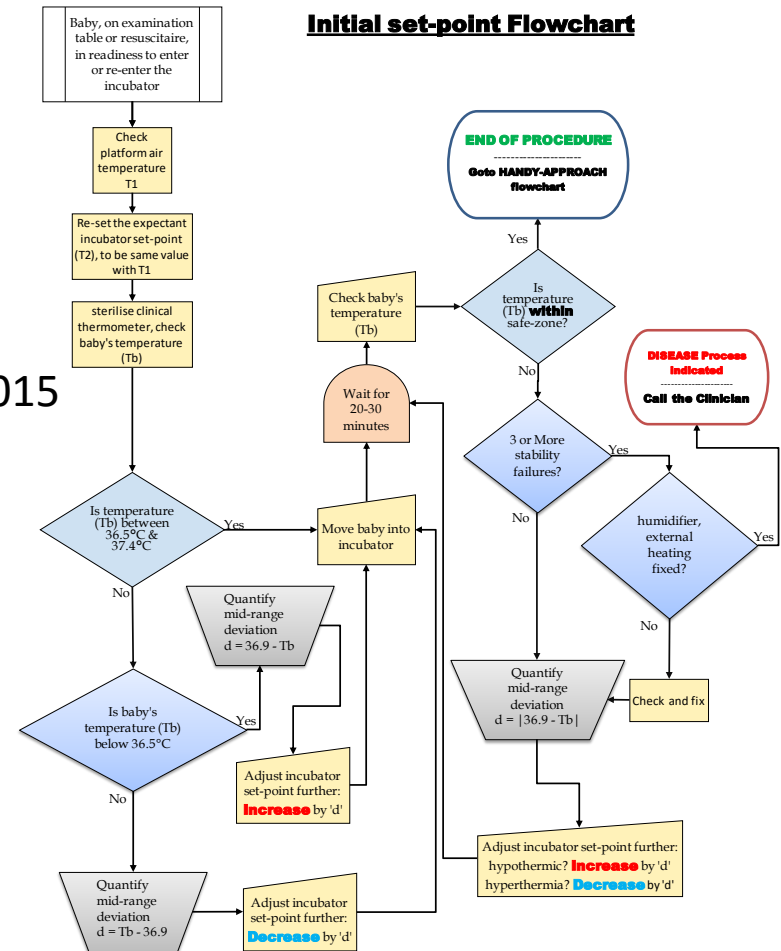


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ADDITIONAL MEASURE

- Initia-setpoint-Algorithm (ISA) initiated in May 2015



Comparative analyses protocol established

INCLUSIVE DATA

- ELBW neonates (550g-1000g)
- VLBW lower margin (1001g-1200g)
- GA: 25-36wks

EXCLUDING neonates presenting

- After December 2011 or before June 2015
- Lifeless at POA

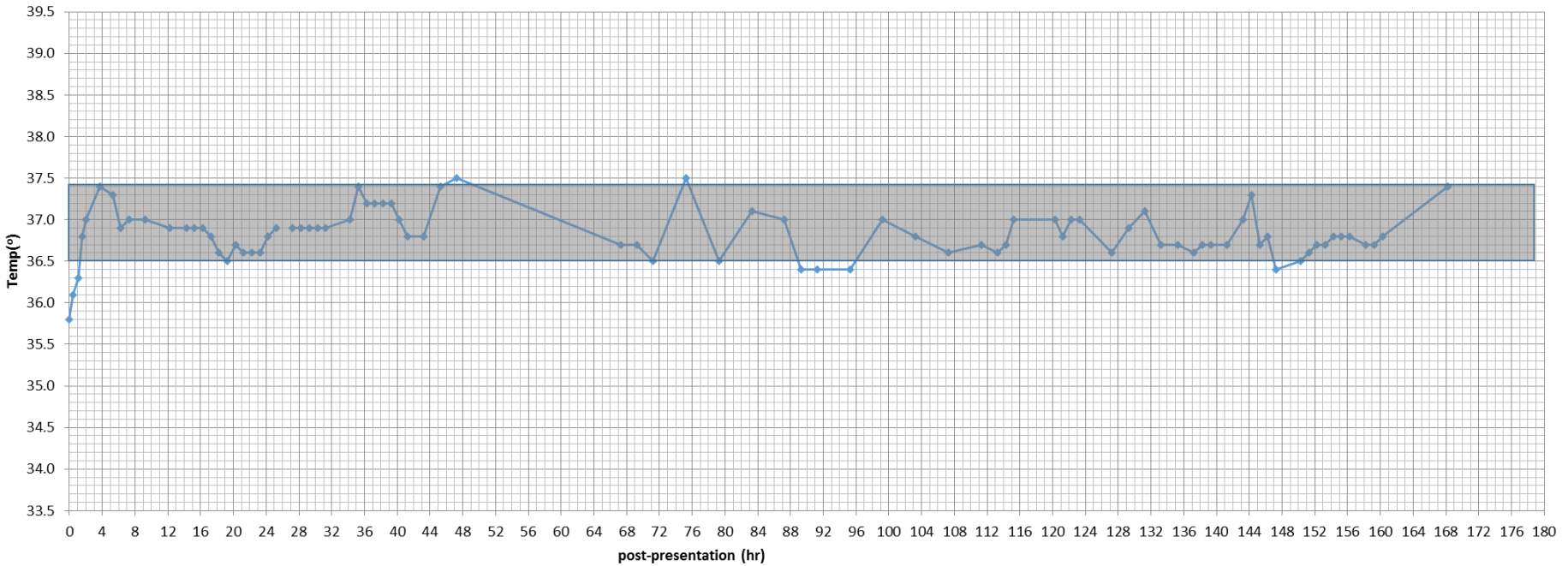
DATA DIVISIONS/SUB-DIVISIONS

- CONTROL group – neonates presenting before January 2012
- TEST group – neonates presenting after May 2015
- Sub-group: (i) < 800g (ii) 801 - 1000g (iii) 1001 – 1200g

Comparative analyses protocol established

DATA EXTRACTION

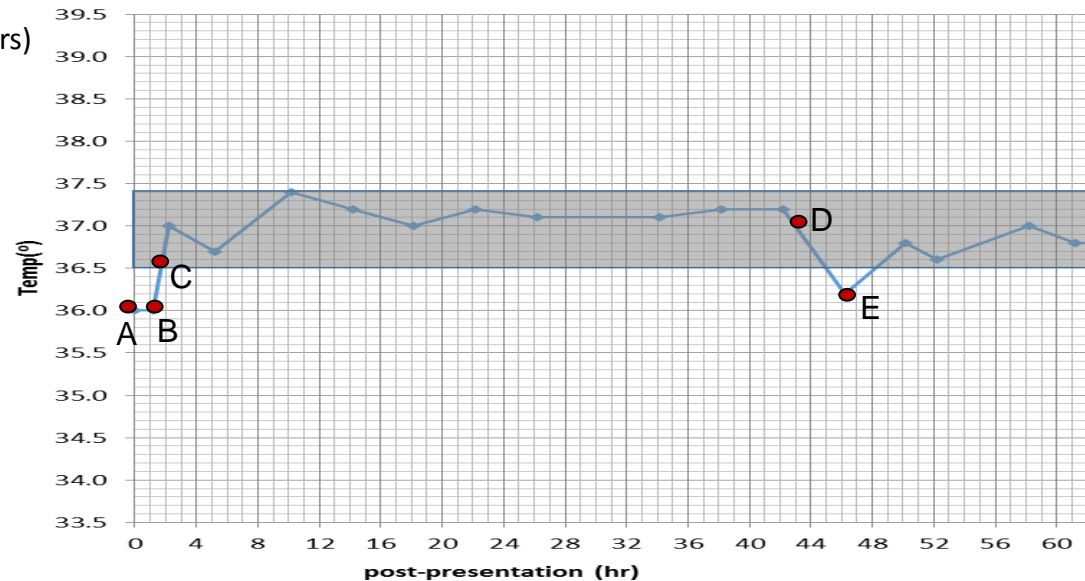
- MS excel software used,
- Every case plotted for lifetime or F7D of life



Comparative analyses protocol established

DATA EXTRACTION

- MS excel software used,
 - Every case plotted for lifetime or F7D of life
 - extracted
 - Times of interest/presenting thermal failures
- Morbidity defined: (failure hrs/100 nursing hrs)
- Presenting co-morbid factors
- Rate defined: (neonates presenting/100)
- F7D & Overall Outcomes



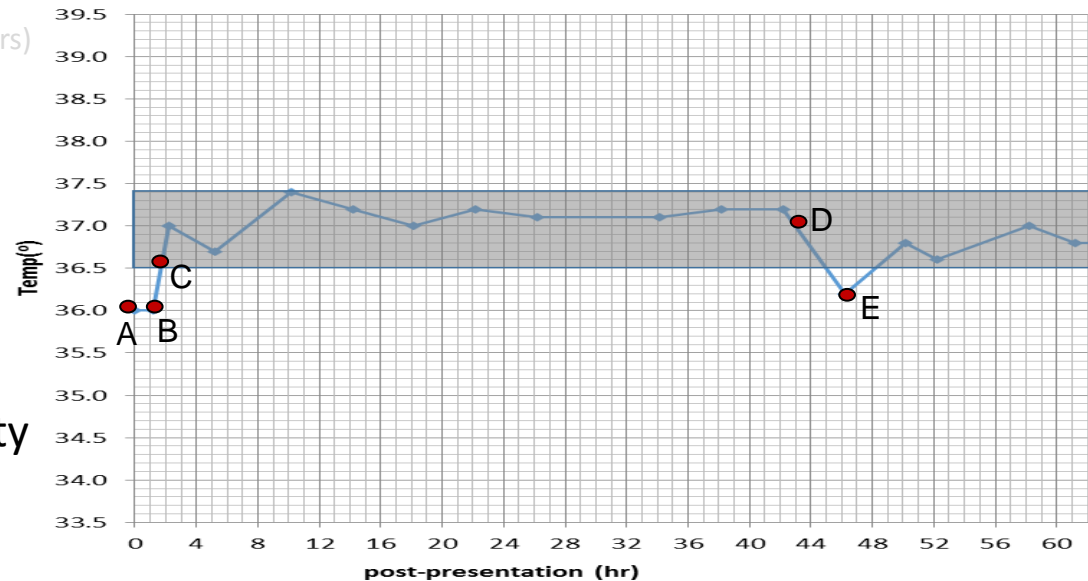
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DATA EXTRACTION

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COMPARISON JUSTIFICATION

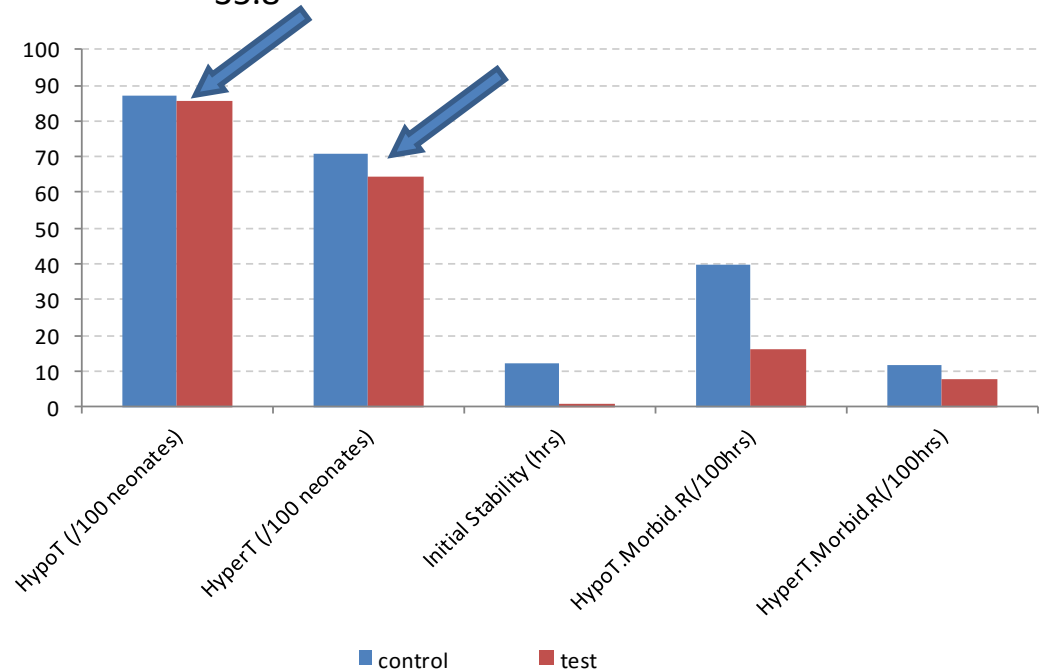
- C & T tested for significant similarity
- POAtemp, GA & BW ($p=0.05$)
- co-morbid factors ($p=0.1$)



Co-Morbid factors were significantly similar

- 64 CNTR & 14 TEST
- 14 of 18 co-morbid factors significantly similar

	BW (g)	GA(weeks)	POAtemp (°C)
CNT	1013	30	36.0
TST	1018	29	35.8

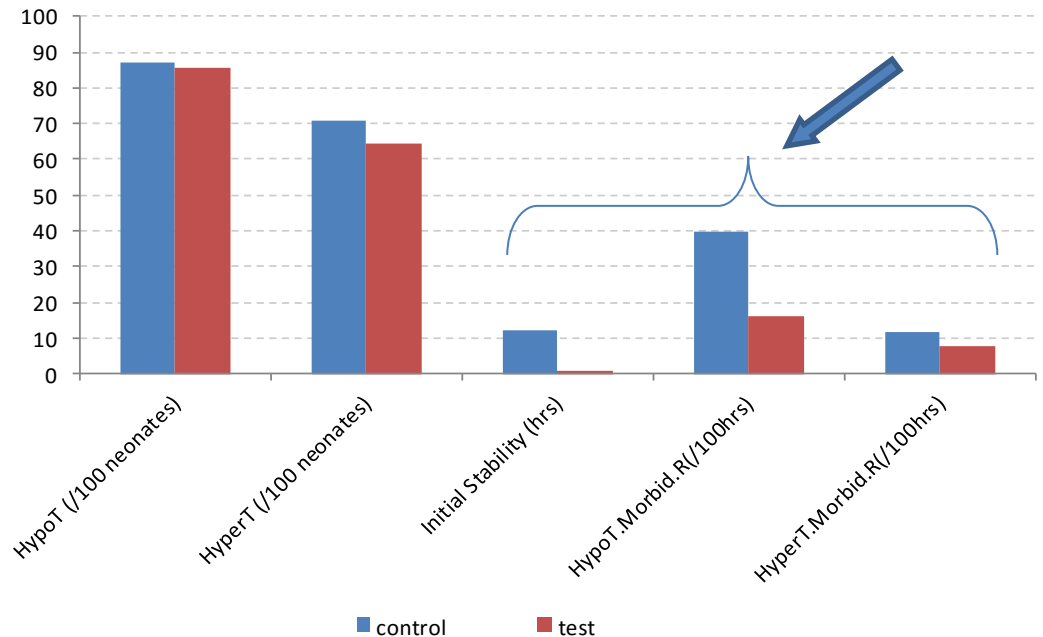


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- INITIAL/FOLLOW-ON THERMAL STABILITY
 - CNTR = 12 hours 24 minutes
 - TEST = 42 minutes
 - Thermal-failure rates
 - Hypothermia reduced in TEST
 - Hyperthermia reduced in TEST

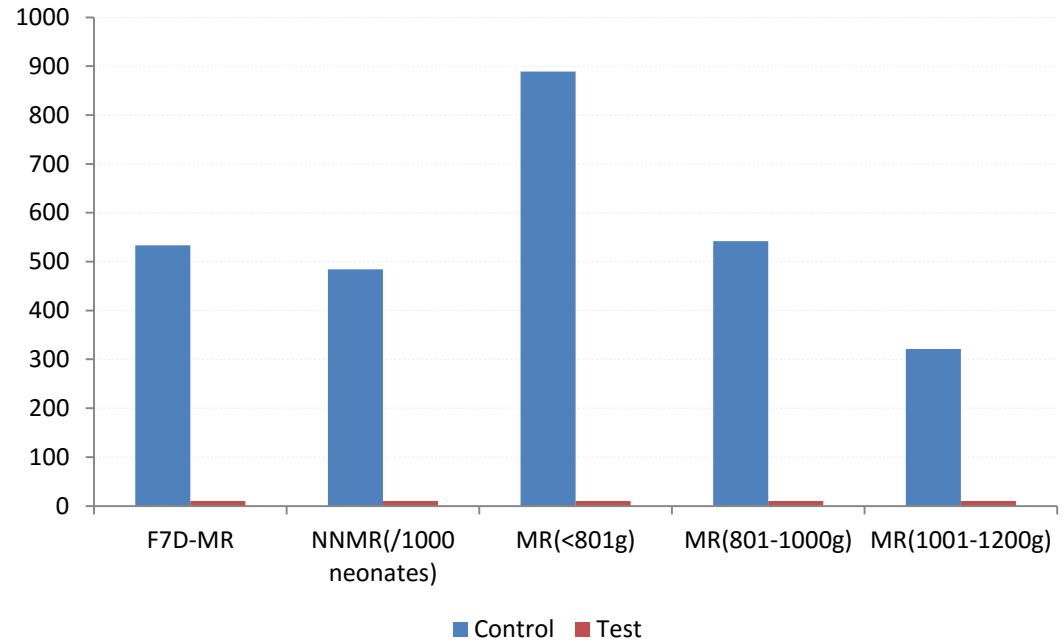


CONSEQUENT NNMRs

- Overall mortality (/1000 neonates)

CNTR: 484

TEST: < 5

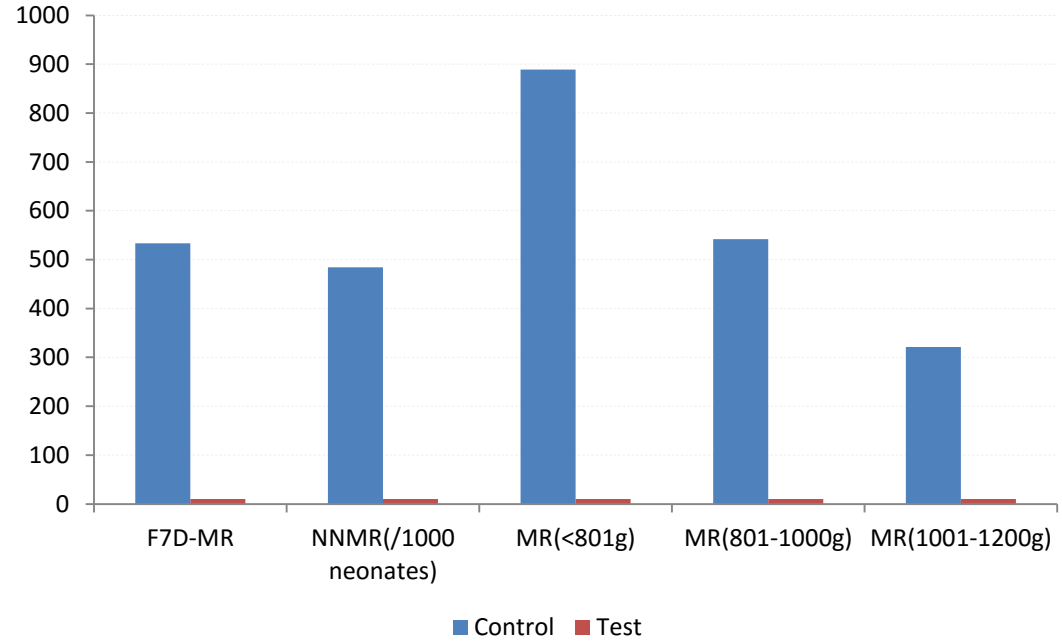


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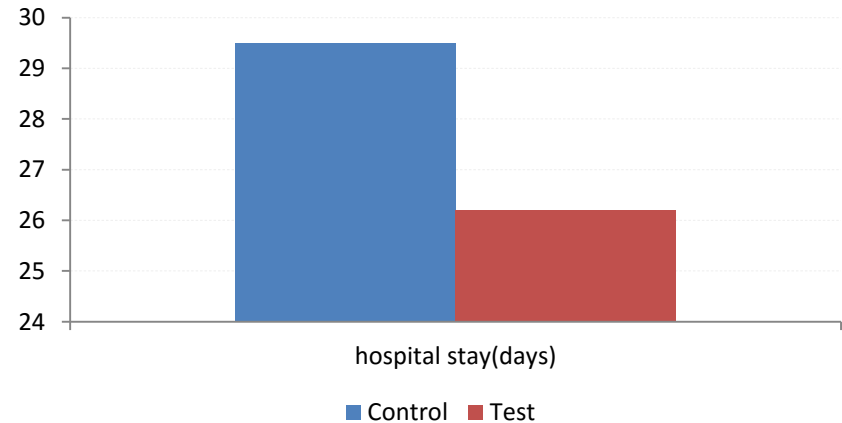
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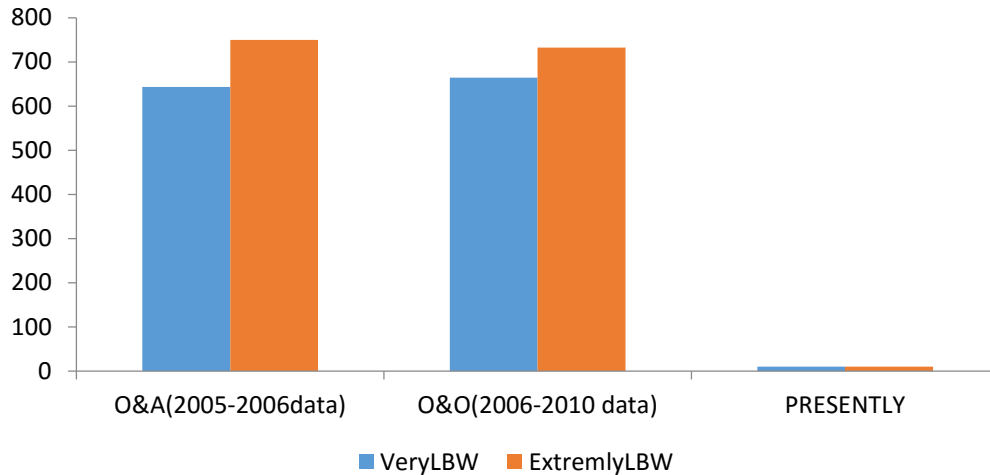
- For surviving neonates

- Ave hospital stay reduced



ISA is revolutionary

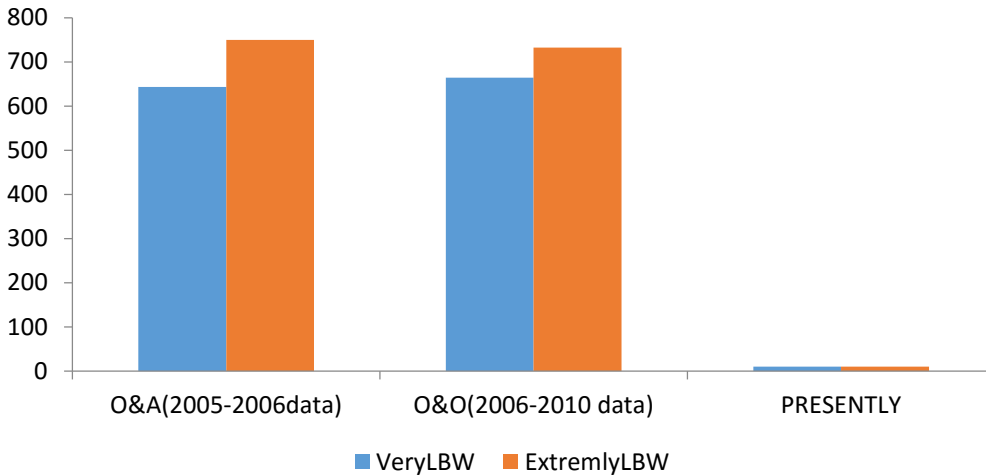
- NNMR for studied category significantly ↓ (from 2005 – 2010 data)



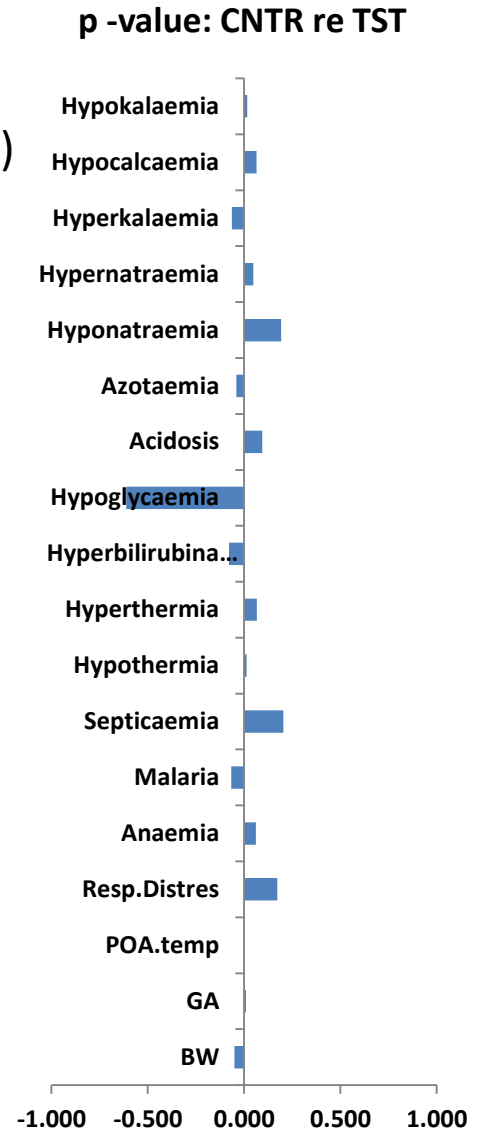
- Thermal stress previously identified major risk factor in VLBW & ELBW
(Amadi et al. 2015, Paediatr Int Child Health)

ISA is revolutionary

- NNMR for studied category significantly ↓ (from 2005 – 2010 data)



- Thermal stress previously identified major risk factor in VLBW & ELBW (Amadi et al. 2015, Paediatr Int Child Health)
- Morbidity incidence rate remained signif. unchanged from 2006
- No other signif. change in mgt technique
- Hence Thermal control – ONLY Significant IMPACT on outcome



IN CONCLUSION

We Conclude that

- It is very possible to reduce Nigeria's corporate NNMR for VLBW & ELBW
- Our most effective solutions for overall NNMR may lie on solutions we generate ourselves rather than foreign & imported ideas
- Although study is ongoing but presented data suggest a massive shift towards neonatal survival

We recommend

- All Nigerian centres adopt the HANDY-APPROACH & ISA Techniques
- All SCBU clinicians & nurses consciously undertake the training course for these applications for the sake of our neonates

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Thank You
but

**Can we join hands to SAVE
THE NEOANATES?**

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