MedNav and Neonatal Life Support Resuscitation Learning:

A Randomised Control Trial at 0 and 7 week follow up

Abstract Number: 061

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• No Conflict of Interests
WHO estimates that 25% of neonatal deaths are caused by birth asphyxia and effective resuscitation could prevent a large proportion of these.

RCOG: In the UK, 500-800 babies die or are left with severe brain injury each year because of their care in labour.

“Each baby counts” states that some of these injuries are avoidable and are committed to reducing this number by 50% by 2020.
MEDNAV

- Medical navigation system

- Designed to guide healthcare professionals in obstetric emergency situations
  - Tasks are delegated efficiently
  - Real time instructions
  - Activities recorded for handover and evaluation

- Software application that can be accessed via a tablet/ external interface/ smart phone.
PICTURE OF MEDNAV ON DIFFERENT DEVICES
STUDY- AIMS

▸ Does MedNav immediately enhance NLS performance after resuscitation teaching?

▸ Does MedNav improve NLS resuscitation performance after 7 weeks following original teaching?

▸ Does MedNav assistance improve candidate confidence?
STUDY- METHOD

- 2 group RCT with crossover testing
- 41 candidates tested, 35 at follow-up
- Non-blinded
  - Test Group: MedNav assistance
  - Control Group: No MedNav assistance
- Novice resuscitators
- Initial 2 hour teaching session
- Identical NLS scenario and assessed using a 12 point mark sheet
- Follow-up at 7 weeks
- Crossover testing of 9 students
7 WEEK FOLLOW UP (CONTROL GROUP)
CROSSOVER TESTING WITH MEDNAV
STUDY RESULTS

- Analysed using SPSS statistics version 24

P Value at initial assessment:

\[ p = 0.036 \]

P Value at seven week follow-up:

\[ p < 0.001 \]
STUDY RESULTS - CROSSOVER GROUP

Tasks completed no MedNav assistance (memory alone):

M=5, SD=2.29

Tasks completed with MedNav assistance:

M=10.4, SD 0.53

P Value for crossover group:

P<0.001

7 week follow up

No MedNav
MedNav Assistance

5 10
At 7 week follow up testing, candidates in the MedNav group were also more confident at performing NLS with a mean confidence of 5.35/7 compared to 2.39/7, p<0.001.
CONCLUSION AND FUTURE PLANS

▸ MedNav proven to improve task performance at 0 and 7 week follow up.

▸ Testing is currently underway in the clinical domain in Uganda.
Further information:

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REFERENCES

2. GSME mobile intelligence 2015