

Exploring newborn behaviour in The Gambia and The UK



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INTRODUCTION

The **Brain Imaging for Global Health (BRIGHT) project** is delivering longitudinal measures of brain and cognitive development from birth to 24 months in The Gambia (Keneba) and the UK (Cambridge).



- We administered the Neonatal Behavioural Assessment Scale (NBAS) during the second week of life to 139 newborn babies in The Gambia and 58 in the UK.
- We examined associations in the Gambian population between newborn behaviour and both **infant social behaviour** at 1m (n=120) and **antenatal maternal mental health** (n=123).

OBJECTIVES

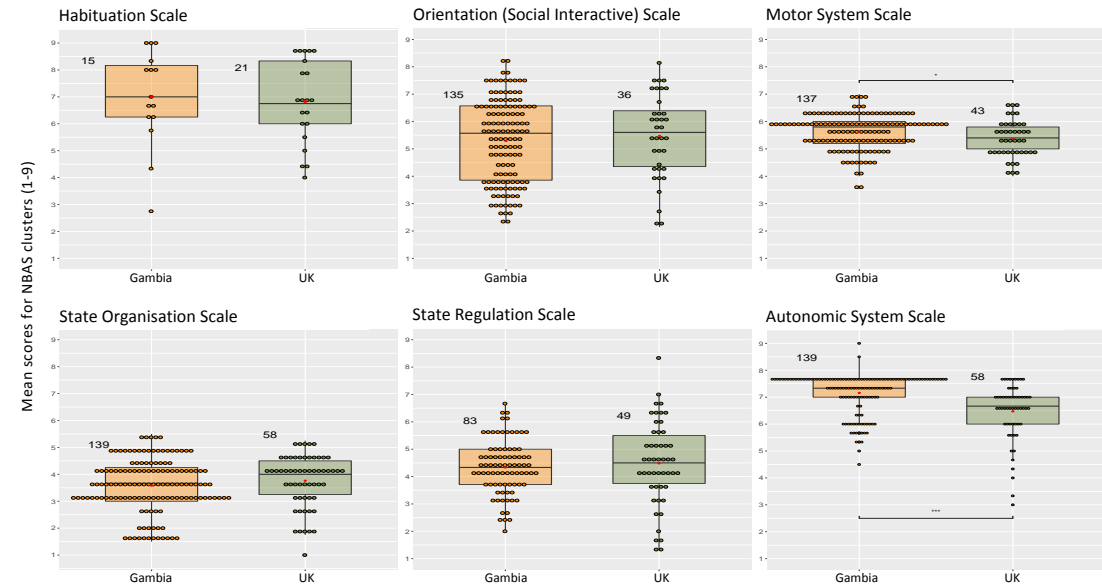
- Explore NBAS acceptability in a novel setting.
- Examine newborn performance in both settings.
- Explore associations in the Gambia between newborn behaviour and latter behavioural outcomes.
- Explore relationship between antenatal maternal mental health and newborn behaviour.

RESULTS

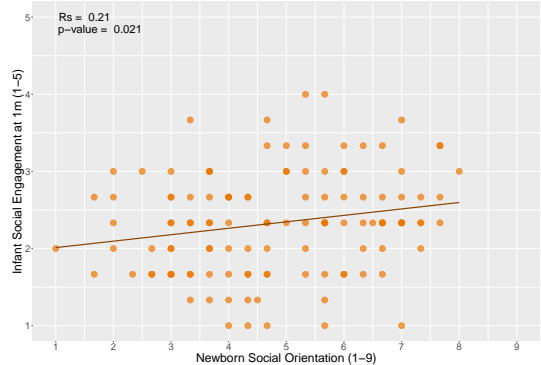
1. The NBAS is appropriate for use in the rural Gambia.

- Only 6 NBAS items (out of 32) received a negative comment.
- Main adjustments:
 - include observers by describing each item before administering it
 - make observations out loud and invite questions
 - look for any signs of parental discomfort
 - respect the right to stop the assessment or skip the item

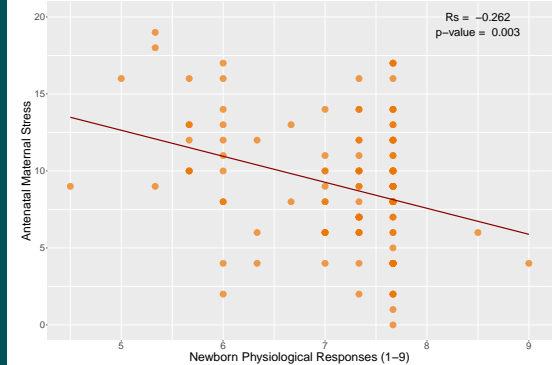
2. Newborn babies in the Gambia appear to have more mature skills and higher autonomic stability



3. NBAS social orientation items are positively associated with infant social behaviour at 1 month



4. Maternal antenatal stress is associated with poorer NBAS physiological responses to stress



METHODS

- We used the **NBAS**, the most comprehensive neurobehavioral assessment available for newborn babies, to explore motor maturity, state regulation and organisation, habituation during sleep and social interactions.
- We assessed **infant social behaviour** at 1 month of age during a natural social interactive context. We focused on behaviours such as infant attentiveness to mum and communication.
- We administered the **Perceived Stress Scale** during the third trimester of pregnancy to assess the perception of stress (psychological stress).

CONCLUSIONS

- The NBAS is an acceptable and culturally appropriate tool in its original format.
- Infants in The Gambia and the UK have similar performance on most of the measures. We observed more mature motor skills and higher autonomic stability among Gambian newborns.
- The social capacity of the newborn seems to relate to infant's attentiveness and communication at 1 month in the Gambia.
- Higher ratings of antenatal maternal stress associate with less newborn autonomic-physiological stability in the Gambia.

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