Associations between maternal-infant interactive characteristics at 1-month post-partum and cognitive outcomes at pre-school age in a rural area of The Gambia

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Background

- Caregiver responses to infant communicative gestures reinforce behaviours necessary for motor, verbal, and attentional skills.
- Cognitively stimulating caregiving practices are posited to support healthy development among infants exposed to environmental adversity.
- An important limitation is that most research examining links between caregiving practices and child cognitive outcomes is conducted in Minority World settings.
- Here, we examine associations between maternal-infant dynamics in infancy and child cognitive outcomes at preschool age.

Methods

- Maternal-infant interactions assessed at 1-month post partum (N=169) using naturalistic assessment
- Maternal Contingent Responsiveness and Infant Active Communication were coded, coded using Global Rating Scales (GRS)
- Child cognitive skills assessed at preschool age (N=171)
- Mullen Scales of Early Learning (MSEL): general cognitive ability
- Executive Functions (EFs): working memory (WM), Inhibitory control (IC) and cognitive flexibility (CF)

Results

- Maternal-Infant Dynamics
- Child Cognitive Outcomes

Both maternal contingent responsiveness and infant active communication scores showed a range of individual differences.

Similarly, there were individual differences in performance on cognitive tasks at preschool age.

Discussion

- Infant communicative behaviours predicted general cognitive skills at pre-school age, while maternal responsiveness was associated with EF skills (WM, IC) but not overall cognitive ability.
- Likely due to skills required by the different measurement types.
- Infant communication promotes language skills relevant for general cognitive ability, while maternal responses may foster development of regulatory abilities.