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The APIB Examination in the NICU: Its Clinical Use

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Background

The *Assessment of Preterm Infants' Behavior* (APIB) is a structured, neurobehavioural examination that objectively measures neurobehavioural functioning. Preterm infants who have received NIDCAP care have improved neurobehavioural outcomes by APIB scores; these APIB measures correlate with developmental function at older ages.

Reliability in APIB administration and scoring is required for certification as a NIDCAP Trainer. The examination requires time, physical and emotional energy on the part of the examiner, who facilitates the infant into his / her most responsive, modulated state. Infant response patterns must be clinically relevant, although we do not know if APIB is used in this way.

Aims

I will present my experience of 'Clinical APIB' and the surprising benefits for babies, families, and staff, and for the NICU System. I hope to promote interactive discussion about clinical use of this informative instrument.

Relevance to NIDCAP

APIB helps us see infant neurobehaviour "in 3D", making the NIDCAP observation simpler, while revealing more detail. If more NIDCAP professionals/ NICU staff know the APIB, this will positively impact NIDCAP training and thus directly affect the Physical Environment and the Care of the Infant, Family and Staff.

Methods

APIB is structured in six sections ("packages"), some of which are directly applicable to the infant's everyday experience in the NICU. Replace with For example, Package 1 assesses responses to light and noise, during sleep. The clinical question is "How does this baby sleep, in this bedspace, within this NICU". Package 2 assesses responses to being unbundled and turned supine – which occurs repeatedly during diaper changes.

Package 6 evaluates social attention and interaction; directly relevant to feeding and interactions with parents.

APIB exams were done at different time points during infants' NICU stays. Some exams were video recorded, if parents consented. APIB exams were done at bedside, or in a quiet, dark room. Parents were invited and informed about the exam flow, time required and what to expect of their babies. At times, parents were invited to participate in Package 6 (social interaction). Parents were provided narrative summaries with suggestions for caregiving, similar to a NIDCAP report.

Results

All babies demonstrated neurobehavioural strengths. Some were surprising: e.g., a severely asphyxiated, "completely unresponsive" infant oriented to mother's voice when guided to speak in synchrony with the baby's unique neurobehavioural thresholds. Other surprising strengths included habituation to light and noise, and the quality of sleep. Staff education was enhanced as a result.

APIB led to fewer investigations and interventions, and earlier discharge. For example, (A) Home oxygen for a late preterm infant who was having more frequent apnea and desaturations. APIB done with parents helped guide "in synchrony" caregiving and feeds; apnea resolved, and baby was discharged home, without oxygen, 2 days later. (B) Three preterm infants who had early post-hemorrhagic ventriculomegaly were felt to be appropriately responsive for age; neurosurgery was avoided (n = 1) or delayed (n = 2).

APIB allowed early detection of neurologic findings, e.g asymmetry of movement and /or unusual patterns of tone not detected by others, leading to early intervention referral.

Conclusions

Clinical APIB revealed neurobehavioural strengths and challenges that had otherwise been missed. Clinical APIB led to changes in clinical care and use of NICU resources.

NIDCAP Trainers Meeting Feedback

"Congratulations to the organizing committee led by Fatima Clemente and Jean Powlesland."