Enhancing Parent's Confidence with Neurodevelopmental Care on NNU: The Impact of Increased Availability of Specialist OT and PT

Sara Ellis (Neonatal PT) and Lucy Lucock (Neonatal OT)

Royal Cornwall Hospitals NHS Trust

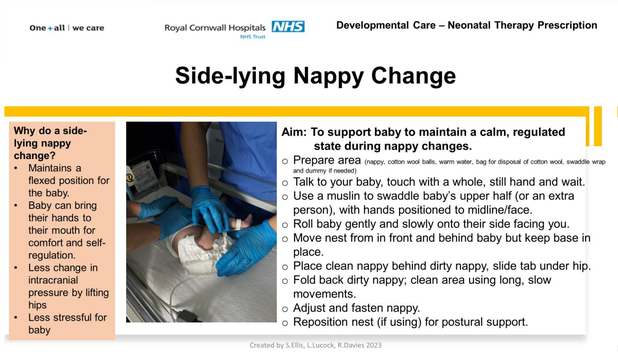
BACKGROUND

Preterm birth is associated with an increased risk of developmental problems & disorders[1, 2, 3]. The early involvement & collaboration of key professions in developing care plans, enhances clinical effectiveness, enables therapeutic interventions, impacts on length of stay, helps avoid complications & improves longer term neurodevelopmental outcomes[4,5,6,7].

From Dec 2023-April 2024, with the introduction of temporary Ockenden Funding, Physiotherapy (PT) & Occupational Therapy (OT) input on our level 2 unit increased from 1 to 10 hours per week, provided as 2x 5-hour days each week.

METHODOLOGY

Alongside neurological assessment & monitoring, the PT/OT provided individualised neurodevelopmental care prescriptions. These were created following observations of the infant & conversation with parents and staff about presenting areas of difficulty or meaningful co-occupations which were appearing a challenge to complete (i.e. positioning / handling / bathtime / bonding / soothability). A 45–60-minute therapy session was offered to provide education, advice & demonstration on the identified area & a prescription card issued as a reference point. Throughout January & February 2024, a Likert scale of 1-5 (1-minimum/5-maximum) was used with caregivers to self-assess their confidence with the prescription, immediately prior to the therapy session & approximately 3 days later.



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Side-lying Nappy Change

Why do a side-lying nappy change?
- Maintains a flexed position for the baby.
- Baby can bring their hands to their mouth for comfort and self-regulation.
- Less change in intracranial pressure by lifting hips
- Less stressful for baby

Aim: To support baby to maintain a calm, regulated state during nappy changes.
- Prepare area (nappy, cotton wool balls, warm water, bag for disposal of cotton wool, swaddle wrap and dummy if needed)
- Talk to your baby, touch with a whole, still hand and wait.
- Use a muslin to swaddle baby's upper half (or an extra person), with hands positioned to midline/face.
- Roll baby gently and slowly onto their side facing you.
- Move nest from in front and behind baby but keep base in place.
- Place clean nappy behind dirty nappy, slide tab under hip.
- Fold back dirty nappy; clean area using long, slow movements.
- Adjust and fasten nappy.
- Reposition nest (if using) for postural support.

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Transferring Baby from/to Cot

Aim: To transfer baby to and from their cot in a neuro-protective way, reduce stress during handling and moving and ensure baby's sensory needs are supported.
- Prepare lines/tubes. If possible, adjust height of cot for your comfort.
- Talk first, then touch, then move.
- Move in a slow, paced manner.
- Muslin cot liner may be used to swaddle baby, ensuring baby's hands are towards midline and their face for self-soothing opportunity.
- Slowly bring baby into a side lying position, maintaining hand hugs and supporting arms/legs to their midline.
- Bring your body as close to the baby as possible to reduce the transfer space.
- Raise baby from cot, bringing directly to your body.
- When returning to the cot, the aim is to complete above but in reverse, ensuring baby stay in contact with your body for as long as possible.
- Return to side lying, before rolling onto their front or back.
- Always watch for baby's cues and respond by adjusting your pace, providing hand hugs etc.

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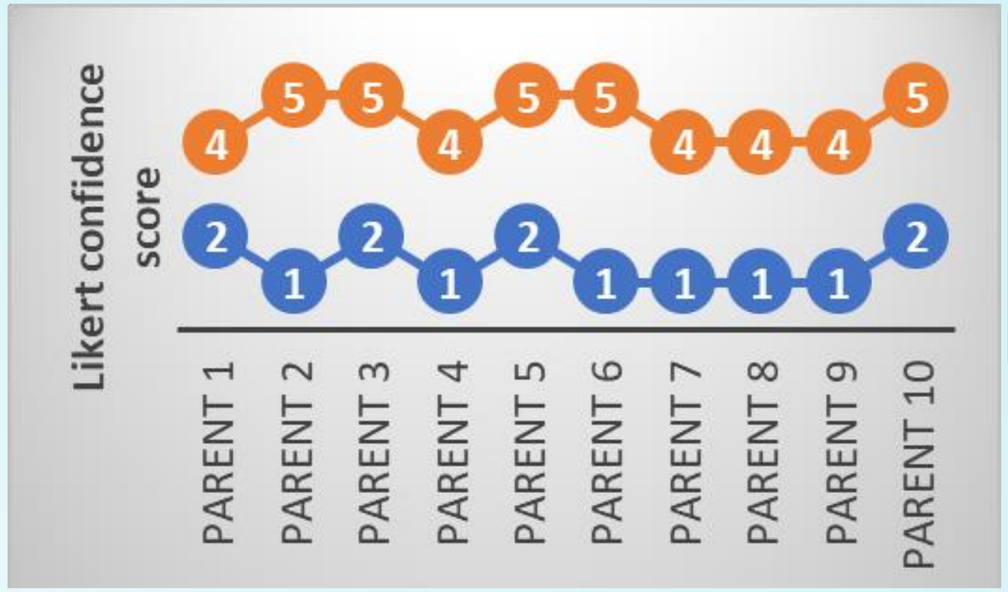
RESULTS



CONCLUSION

Increased input from specialist PT/OT to promote & integrate neuro-developmental care on the NNU has a positive effect on parental confidence. This correlates with existing research[8] that demonstrates parent/child dyad improves clinical effectiveness & long-term outcomes for both the infant & their whole family.

Parent Quote:

"The physio & OT input have had a huge impact on the excellent progress that my baby has made and I believe have lessened her need for intervention post discharge – they are a huge asset and I feel an essential part of the neonatal team".

REFERENCES

1. Hutchon B, et al. Early intervention programmes for infants at high risk of atypical neurodevelopmental outcome. Dev Med Child Neurol. 2019 Dec;61(12):1362-1367
2. Epicure Study, EGA Institute for Women's Health, UCL - https://www.ucl.ac.uk/womens-health/research/neonatology/epicure
3. Mitchell AW, Moore EM, Roberts EJ, Hachtel KW, Brown MS. Sensory processing disorder in children ages birth-3 years born prematurely: a systematic review. Am J Occup Ther. 2015 Jan-Feb;69(1)
4. Martin JH, Chakrabarty S, Friel KM. Harnessing activity-dependent plasticity to repair the damaged corticospinal tract in an animal model of cerebral palsy. Dev Med Child Neurol. 2011 Sep; 53(Suppl 4) 9-13
5. Morgan C. et al. Early Intervention for Children Aged 0 to 2 Years With or at High Risk of Cerebral Palsy: International Clinical Practice Guideline Based on Systematic Reviews. JAMA Pediatr. 2021 Aug 1;175(8):846-858.
6. Pineda R, Bender J, Hall B, Shabosky L, Annecca A, Smith J. Parent participation in the neonatal intensive care unit: Predictors and relationships to neurobehavior and developmental outcomes. Early Hum Dev. 2018 Feb;117:32-38
7. O'Brien K, Robson, K, Bracht M, Cruz M, Lui K, Alvaro R, et al. Effectiveness of Family Integrated Care in neonatal intensive care units on infant and parent outcomes: a multicentre, multinational, cluster-randomised controlled trial. The Lancet Child & Adolescent Health. 2018; April; 2(4): 245-254
8. Treyvaud K, Anderson VA, Howard K, Bear M, Hunt RW, Doyle LW, Inder TE, Woodward L, Anderson PJ. Parenting behavior is associated with the early neurobehavioral development of very preterm children. Pediatrics. 2009 Feb;123(2):555-61