Research shows comforting babies eases parental stress in painful procedures

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The Neuroimaging Group, at the Department of Pediatrics, in collaboration with Bliss, the charity for babies born premature or sick, has launched a new suite of information resources for parents of newborns designed to make them feel more confident about being involved in the care of their babies.

While evidence demonstrates that parents can play a positive role in comforting their baby during painful procedures, practice in the UK lags far behind. However new research by the Neuroimaging Group, published in *The Lancet Child & Adolescent Health* and Pain has brought further proof of the positive impact that being involved in their baby's care has on parents.

The Parental touch trial (Petal) aimed to assess whether parental touch at a speed of approximately 3 cm/s to optimally activate C-tactile nerve fibers, provides effective pain relief during a heel-prick procedure. While there was no difference in the babies' brain, behavioral or heart rate response to pain regardless of whether the parent touched their baby before or after the painful procedure, the findings did demonstrate that the majority of parents had positive emotions when involved in their child's care—such as feeling useful and reassured—and an overall decrease in parental anxiety after their participation.

These new resources, a combination of beautifully curated and informative videos, FAQs and online information content, have been developed in light of the collaboration with parents and health care professionals. They are free to access online and set out in detail the many ways that parents can touch and comfort babies of all gestations during painful procedures on the neonatal unit, including skin-to-skin care.

Commenting on the research in an accompanying *The Lancet Child and Adolescent Health* editorial, Ruth Guinsburg, said, "This study is an example of excellence in research. The trial was carefully designed with a clear question, strict inclusion and exclusion criteria, a well-designed and reproducible intervention based on biological plausibility, and defined outcomes, with the strength of using an objective rather than a subjective measure of pain.

"Only with trials like this might we transform faith in science and test the efficacy of traditional aspects of parental care in order to incorporate them, or not, in bundles to alleviate the pain in neonates."

Dr. Rebeccah Slater, Professor of Pediatric Neuroscience and Senior Wellcome Fellow at the Neuroimaging Group, said, "Working with parents, babies and health care professionals to better understand how we can support premature and sick babies during painful procedures has been a highlight of my career.

"Developing these resources with Bliss has placed families at the heart of all the research we do, and has directly improved our engagement with families and the quality of our research. We will continue to find new ways to support parents and their babies when painful procedures form an essential component of neonatal care."

Dr. Roshni Mansfield, a pediatrics trainee and NIHR academic clinical fellow in the Pediatric Neuroimaging Group said, "The Petal trial has highlighted the importance of involving parents in the provision of care and comfort for relieving their child's pain. Future studies can build upon the insights gained from this trial including the positive parental experiences observed in this study.

"Prospective research might, for example, exercise a more spontaneous approach to delivering the gentle touch, such as allowing parents to

stroke their child at their own pace, for as long as they need to calm and comfort their child, rather than a more mechanical and precise application."

Dr. Maria Cobo, a postdoctoral researcher who managed the trial, added, "Another positive aspect of the study was the high degree of involvement by both fathers (35%) and mothers (65%) in delivering the parental touch to their babies. This contrasts with many studies, where only mothers' opinions and involvement have been sought."

Caroline Lee-Davey, chief executive of Bliss, said, "We are thrilled to have worked alongside the amazing team of researchers at the University of Oxford to further our understanding on the importance of parental involvement in their babies' neonatal care. We know that babies have the best chance of survival and quality of life when their parents are empowered to be partners in their care but, sadly, we hear all too often that parents are not informed about their babies' procedures or the role that they can have in comforting their baby.

"The outcomes of this research have directly shaped a new suite of Bliss information for parents and health care professionals which will help to validate what families often instinctively know to be true—that no matter how unexpected or strange the neonatal environment can feel, they are still their baby's parent and they have a vital role to play in their comfort and care."

More information: Annalisa G V Hauck et al, Effect of parental touch on relieving acute procedural pain in neonates and parental anxiety (Petal): a multicentre, randomised controlled trial in the UK, *The Lancet Child & Adolescent Health* (2024). DOI: 10.1016/S2352-4642(23)00340-1

Marianne van der Vaart et al, Parental experience of neonatal pain research while participating in the Parental touch trial (Petal), *Pain* (2024). DOI: 10.1097/j.pain.0000000000003177

Ruth Guinsburg, The touch of science: the Petal trial, *The Lancet Child & Adolescent Health* (2024). DOI: 10.1016/S2352-4642(24)00001-4