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Preterm birth: what does psychology have to offer?

Fiona Alderdice and Maggie Redshaw

Prematurity is the most important determinant of adverse neurological and intellectual outcomes (Saigal & Doyle 2008) and remains a major global challenge despite many developments that have improved the care and survival of these vulnerable babies. The Preterm Birth Priority Setting Partnership released its top 15 research priorities in 2014 (Duley et al 2014). The Partnership worked with the The James Lind Alliance (<http://www.lindalliance.org>) using their widely recognized methodology that bring patients, carers and health professionals together to identify and prioritise the research for treatment uncertainties.

It is clear, even from a brief reflection on the priorities, that psychological theory and methods will have an important role to play in identifying and developing effective prevention and management of prematurity over the next decades. For example, the top priority is ‘What interventions are most effective to predict or prevent preterm birth?’ After many years of research this is still a major gap in knowledge as there are many routes to premature birth and the underlying mechanisms that result in preterm birth are not well understood. For example, using a biopsychosocial model to explore underlying mechanisms may be of value as a significant body of research now exists which demonstrates that maternal stress in pregnancy can predict preterm birth (Shaw et al, 2014). However the findings are currently inconsistent and an important next step is robust measurement of stress in pregnancy accompanied by clear underpinning theory (Alderdice et al 2013). Psychology also has a key role to play in designing research high quality trials. case-control and cohort studies that can provide the evidence base for change.

Priority 5 is ‘What should be included in packages of care to support parents and families/carers when a premature baby is discharged from hospital?’ Discharge home is a highly distressing time for parents and the information we provide parents at this time is an important lifeline. A qualitative study by Nicolaou et al 2009 showed that mothers recalled that information about taking infants home had focused on physical care with little guidance about interactions and play. Also health professionals in the community were perceived as lacking necessary expertise in the care of premature infants particularly in regard to infant development. Other research, also published in JRIP, has demonstrated that highly anxious mothers find this a particularly difficult time and that it is not just the smallest babies but also mothers of late preterm infants (born at 34-36 weeks gestation) experience more stress,

anxiety, and depression than mothers of full-term infants (Gambina et al 2011). More effective support interventions that promote both parent and infant well-being are a priority.

The potential psychological impact of physical separation during the first weeks of life of these tiny babies is highlighted in priority 9: 'What emotional and practical support improves attachment and bonding, and does the provision of such support improve outcomes for premature babies and their families?' The impact of premature birth on attachment has long been an area of concern, though clear definitions and thoughtful use of terminology concerning what is meant by parent- infant 'attachment' are required (Redshaw and Martin, 2013). A qualitative study conducted by Niven et al in the early 1990s described the emotional problems that may arise for mothers whose pre-term babies had been cared for in a neonatal unit. Mothers were interviewed when their babies were on average 5.5 months old and a number of factors were identified which were related to parent-infant attachment difficulties including shock, fears about the babies' survival and previous reproductive problems. The mothers also articulated feelings of guilt and of loss and a sense that the baby was not really theirs.

While there is a growing awareness of ways to enhance parent-infant relationships in the neonatal unit, we may also be missing important opportunities to enhance parent- infant interactions and relationships through ongoing follow up. We are often so focused on baby physical and cognitive development assessment that we miss out on the importance of parent well-being and family dynamics and their potential impact on infant development. Babies brains grow and develop so much during the first year of life and this is most evident in their growing social and attention skills that are the foundations of later cognitive functioning. Ongoing follow up of infants and using interventions , like for example, the Newborn Behavioural Observation (NBO), a relationship building tool for working with parents and babies (Nugent et al, 2007) has considerable potential to make a difference. This and other interventions in the course of follow-up provides an opportunity not just to assess broader psychosocial issues but also to work directly with parents in identifying ways of enhancing communication, engagement with their baby and enjoyment in being a parent.

This is just a reflection on a few of the priorities where there is obvious input from psychology, but it is relevant to many others including priority 7. 'What is the best way to judge whether a premature baby is feeling pain (for example, by their face, behaviours or brain activity?)' and 'What are the best ways to optimize the environment (such as light and noise) in order to improve outcomes for premature babies?' Life saving treatments of premature babies lead to many necessary interventions and much work has been conducted on

a range of ways to control pain and manage distress that may be a consequence of care (Roofthoof et al, 2014) . Application of psychology through neonatal nursing has much to offer here. For example Linda Franck's evidence based information for parents on *Comforting Babies in Neonatal Intensive Care* (2014) demonstrates the importance of basic psychological principles being applied in every day neonatal nursing practice and the importance of communicating them to parents to help them engage confidently with their baby <http://nursing.ucsf.edu/news/comforting-your-baby-intensive-care-professor-linda-franck-now-available-free-charge>. This example also highlights another important point: psychological intervention should not sit out on its own but should be delivered as part of a package of family-centred approach to care by neonatal nurses, neonatologists and all other health professionals involved in caring for premature infants and their families (Staniszewska et al, 2012).

A lot of time and money has already been invested in research into prematurity so we are not looking at a blank page. To make progress with the priorities identified we need to start thinking outside the box. For example, giving more thought on to how to deliver simple low cost interventions that enhance family well-being and infant development may yield timely results as they can be globally relevant, parent led and guided by an inter-disciplinary approach. The James Lind Alliance and other groups internationally have helped us to identify the top research priorities that parents and clinicians want addressed and Nugent, JK, Keefer, CH, Minear, S, Johnson, L, and Blanchard, Y. it is now up to us to respond.

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