Remember the late preterm neonate

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Tom McEwan BJM Birthwrite Article 1

"Please remember the Late Preterm Neonate".

In the first of a series of articles exploring neonatal topics relevant to the midwife, I'd like to start with the often overlooked Late Preterm (LP) neonate. As a midwifery lecturer, and occasional neonatal practitioner, I believe this is a group that requires special attention from both midwives and health visitors across the country.

UK maternity and neonatal healthcare policy is changing. For example, the 'Best Start: A five-year Forward Plan for Maternity and Neonatal Care in Scotland' (Scottish Government, 2017) presents ambitious and extensive recommendations for the reconfiguration of Maternity services in Scotland, envisioning a model of care that is intrinsically led by the needs of women, babies and their families. In particular, the care of LP neonates gains some prominence within this document where it suggests an approach for the care of this group away from specialist neonatal wards to other postnatal environments, which if not carefully managed, may result in greater numbers of potentially vulnerable neonates facing earlier discharge to community.

This LP population, born between 34- and 36+6-weeks' gestation, present a variety of challenges for the clinician immediately after birth, in the early postnatal period and beyond. In the first few days this group are prone to respiratory complications, thermal instability, feeding difficulties and infection (Morgan and Boyle, 2018). The subset of births that includes this grouping accounts for the majority of preterm births in Scotland (ISD, n.d.), with some suggesting that this group represents 75% of all preterm births in the UK (Boyle et al, 2015).

Several studies have explored the unique characteristics of this group and their consequent clinical needs, with Muelbert, Harding and Bloomfield (2019) describing them as the 'great dissemblers'- their resemblance in appearance to healthy term infants masking their increased risk of poorer outcomes. Boyle et al (2015) explored the neonatal outcomes for both late and moderately preterm (LMPT) neonates in the UK, with clear disparities between the groups demonstrated. Unsurprising differences in the need for resuscitation at birth (17.5% vs 7.4%) and respiratory

support after birth (11.8% vs 0.9%) were identified. However, a notable and unexpected difference was highlighted with regards to those who were breastfed, with 64.2% of the LMPT experiencing this compared with 72.2% of their term counterparts. This is significant when considering the efforts in the last decade to ensure preterm neonates receive breastmilk given the significant protective benefits of this practice (Entwistle, 2013; Victora et al, 2016).

Engle et al (2007) provide an informative overview of the LP neonatal population, categorising them as a group 'at risk'. As well as providing a detailed summary of the morbidity and mortality statistics of this group and their contributing risks, they suggest the need for careful discharge planning for this population to reduce the risk of readmission or further compromise. Criteria for discharge include ensuring feeding competency and development of an appropriate feeding plan, thermoregulation, monitoring of growth and development and recognition of signs of deterioration due to infection, jaundice or metabolic causes. Jensen (2011) also supports the stance that this is a vulnerable group, but in addition identifies that limited data is routinely collected on this sub-group of the preterm population other than rates of readmission to hospital for thermal, respiratory or metabolic instability. Furthermore, she suggests that improved parental and health professional education, and access to transitional care facilities, may reduce the significant morbidity and mortality experienced by this group.

Exploring the spectrum of neonatal care across the geographical regions in England, Field et al (2016) reinforces the points discussed by the previous authors, with one notable new insight provided. When they reviewed the quantitative data related to the number of visits to LMPT neonates made by a health visitor following hospital discharge to 24 months age, this vulnerable group received fewer total visits when compared to visits made to term neonates during the same period. Alarmingly the authors make no comment on this within the report, it appears to have been lost within the extensive range of statistics presented. While it is impossible to explain this counter-intuitive finding in the context of this report, it may be related to the lack of recognition of the vulnerability of this subset of the neonatal population, especially when compared to the far higher number of visits to the <32 week population within the same report. This builds upon the beliefs of Kugelman and Colin (2013) that this

group are born during a time of critical development, increasing their relative risk of developing longer-term neuro-developmental problems, possibly resulting from suboptimal care during the inpatient period or under-recognition of compromise by clinicians following discharge. This is further supported by Kelly et al (2016) who identified that LMPT exhibit disrupted white-matter microstructural development, which may also account for the neurodevelopmental delays observed in this group.

Considering all of this information, my plea to students and colleagues participating in the care of the LP neonate- don't be fooled by their appearance, remember the hidden vulnerabilities of this group, be alert to their needs and ensure parents are prepared well for their discharge.

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