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Reducing Preterm Birth and its Risks

The Preterm Birth Committee, House of Lords on November 14, 2024 published the document 'Preterm birth: reducing risks and improving lives'[1]. It was informed by a large group of eminent perinatal doctors and academics.

The 2 principal questions that guided the document were how the overall incidence of preterm birth could be reduced and how the outcomes for babies and their families could be improved. Preterm birth is the single biggest cause of neonatal mortality and morbidity. 75% of neonatal deaths are in infants less than 37 weeks gestation. In addition, three-quarters of stillbirths are preterm. Preterm infants have a greater risk of disability than term infants. The rate of perinatal brain injury in preterm infants is 26 per 1000 live births compared with 3.5 per 1000 live births in term infants. Cognitive impairment is the problem most commonly encountered in preterm infants. While advances in perinatal care have improved survival rates, there has not been a corresponding improvement in neurodevelopmental outcomes. The prematurity rate in the UK is 7.9%. It is highest among black babies at 8.5%. It is estimated that 18.5% of preterm births are attributed to socioeconomic inequality. The WHO classification of preterm births is as follows: extremely preterm <28 weeks, very preterm 28 to <32 weeks, moderate to late preterm 32-36 weeks gestation. The UK target to reduce prematurity from 8% to 6% has not been achieved and the rate has not decreased since 2016. The committee concluded that the timescale for lowering the prematurity rate was unrealistic.

There have been 3 editions of the UK Saving Babies Lives Care Bundle – 2016, 2019, 2023. The first set out national guidance on reducing stillbirths and early neonatal deaths. The second aimed at reducing preterm births and optimising the care when a preterm birth is inevitable. The third identified 9 specific perinatal optimisation interventions[2]. It is pointed out that when addressing the causation of prematurity a distinction needs to be made between spontaneous preterm birth and that due to intervention on either maternal or fetal grounds.

The pregnancy related conditions that lead to preterm labour include preterm prelabour rupture of membranes (PPROM). PPROM accounts for 3 out of every 10 preterm births. 60% of twin pregnancies deliver prematurely and IVF is a contributor to the increased number of multiple births. Women who smoke are 2.6 times more likely to have a preterm birth and 4.1 times more likely to have a small-for-dates infant.

The major challenge at the present time is that there is a lack of understanding of the molecular mechanisms that trigger preterm and term labour. This means that very few

targeted interventions have been possible. However, one potential advancement is has been in the analysis of the microbiome of the reproductive tract and its relation to preterm birth. Investment in perinatal research lags behind that in other medical fields. For every £1 spent on pregnancy care, only 1P is spent on research. The total expenditure on pregnancy research between 2013 to 2017 was only £51 million.

There has been only medicine ever developed specifically for a neonatal condition, surfactant for respiratory distress syndrome. On the other hand the MRC (medical research council) states that it doesn't get that many perinatal research grant proposals.
The committee accepted that research is an essential component of optimising care for mothers and their infants. More effective interventions are needed. There are, however, a number of key measures that have been very beneficial in the management of prematurity including antenatal corticosteroids, antenatal magnesium sulphate, delayed cord clamping, breast milk, and blended oxygen for resuscitation. Family integrated care is beneficial for preterm babies and their parents. It leads to increased weight gain, better motor development, and reduces the duration of NICU stay. It reduces the parental anxiety caused by the separation and uncertainty. However, the lack overnight accommodation in many neonatal units is a barrier to its evolution.

There are a number of Public Health risk factors that contribute to mothers delivering prematurely. These include being older, higher BMI, gestational diabetes, and hypertension.

Neurodevelopmental follow-up is an important part of the neonatal services. There is not enough known about prematurity and preterm infants in the community. In particular it is important that they are screened for cognitive impairment including difficulties with memory, attention, problem solving, difficulties with fine and gross motor skills. They have difficulties in mastering life skills. The data indicates that 4.2% of all surviving preterm infants will have a severe disability while 18.5% will have a milder disability. The committee noted that many parents worry that their child is not mature enough to start school. There needs to be greater flexibility in education because of the risks for these children. When an infant born 4 months prematurely reaches 4 years of age, cognitively they are 3 years and 8 months and thus is at a disadvantage compared with the other children in their class.

This document is a valuable fresh overview of preterm birth and the many challenges that it poses for families and the health services. Its conclusions are in agreement with those expressed at the World Prematurity Day (WPD) 2024. WPD was established by the EFCN (European foundation for the care of newborn infants) and its partner organisations in 2008 and it is observed annually on November 17. It is dedicated to raising awareness about infants born prematurely and the difficulties that they face. Globally there are 13 million infants born

prematurely annually, 1 in 10 of all live births[3]. The theme for 2024 was about closing the gap and advocating for better maternal and neonatal services worldwide.
ENAP (every newborn action group)[4], launched in 2014, aims to end preventable neonatal and maternal deaths by 2030. It has led to a reduction in neonatal mortality and morbidity in low income countries. The Irish Neonatal Health Alliance (INHA) represents the interests of the preterm infants and their parents in Ireland. It provides advocacy, awareness, education, support, and research about prematurity.

In summary, preterm birth continues to pose a major challenge to the delivery of perinatal care, and it needs continuing investment both in staffing and research.

JFA Murphy
Editor.

References

1. Preterm birth: reducing risks and improving lives. Preterm birth committee. House of Lords. November 12;2024
2. Saving Babies Lives. Version 3. NHS England 2023; July.
3. Liang X, Lyu Y, Li J, Li Y, Chi C. Global, regional, and national burden of preterm birth 1990-2021: a systematic analysis from the global burden of disease study 2024. Lancet 2024;76:Oct
4. Every Newborn: An action plan to end preventable deaths. WHO 2014; June.