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MBRRACE-UK Perinatal Mortality Report

MBRRACE-UK[1] (mothers and babies; reducing risks through audits and confidential enquiries across the UK) was established in 2013. It includes the perinatal data of the four devolved nations-England, Scotland, Wales, and Northern Ireland. It publishes annual reports.
In July 2024 it reported on the UK 2022 perinatal mortality rate. The number of births was 675,891 which was a 3.3% decrease compared with 2021.
The extended perinatal mortality rate (stillbirths + neonatal deaths up to 28 days) was 5.19 per 1000 births. The report focuses on births from 24 weeks gestation. Terminations of pregnancy have been excluded from the mortality rates reported. Stillbirths account for two-thirds and neonatal deaths account for one-third of the perinatal mortality rate.

The stillbirth rate continues to show a significant association with ethnicity and social deprivation. Babies of black ethnicity are more than twice as likely to be stillborn than babies of white ethnicity 6.19 per 1000 births vs 2.99 per 1000 births.
The stillbirth rate for most deprived mothers was 4.6 per 1000 live births compared with 2.6 per 1000 births in the least deprived areas.
The commonest causes of stillbirths were the placenta 36.3%, congenital malformations 8.3%, and cord-related pathology 5.3%. In 33.9% of cases the cause of the stillbirth is not known.

The neonatal mortality rate also shows a relationship with ethnicity and deprivation. The rates were as follows - Black infants 2.41 per 1000 live births, Asian infants 2.5 per 1000 live births, and white infants 1.56 per 1000 live births.
The neonatal mortality rate in babies born to mothers in the most deprived areas was 2.38 per 1000 live births, and 1.18 per 1000 live births in mothers in the least deprived areas.
The main 5 causes of neonatal deaths were congenital anomaly 33.7%, prematurity 11.8%, neurological 12.4%, cardio-respiratory 9%, and infection 6.6%.
This data demonstrates that deaths due to congenital anomalies continue to account for a large number of perinatal deaths.

The factors associated with higher perinatal mortality rates in babies born to Black and Asian mothers is receiving increased scrutiny. It is important to explore whether it is related to diet, pre-existing morbidities, lifestyle habits, health behaviours or insufficient health education. It is considered important to distinguish between immigrants who have recently arrived and those who have been settled in the country for some years.

The summary findings are:
Stillbirths mortality: most deprived mothers 4.6 per 1000 births, least deprived mothers 2.51 per 1000 births. Ethnicity – Black 6.19 per 1000 births, Asian 4.27 per 1000 births, White 2.99 per 1000 births.
Neonatal mortality: deprived mothers- 2.38 per 1000 live births, least deprived mothers-1.18 per 1000 live births. Ethnicity- Asian 2.5 per 1000 live births, Black 2.41 per 1000 live births, White 1.56 per 1000 live births.

The impact of prematurity on the perinatal mortality rate is highlighted. Despite being only 8% of births, infants less than 37 weeks gestation continue to make up 75% of stillbirths, and 74% of neonatal deaths.

There is a separate sub-section related to infants born between 22-23 weeks gestation. There were 579 (59%) live births out of 974 total births in this category. The number of babies who died during the late neonatal period has almost doubled between 2014 and 2022. This reflects the increase in the proportion of these extremely preterm infants now receiving active resuscitation and neonatal intensive care.

The UK has twelve times more births annually compared with Ireland. This makes specific trends and new challenges facing perinatal medicine more easy to identify. The MBRRACE report underlines the key causes of stillbirth and neonatal deaths. On reading the report one is struck that the key causative factors are prematurity, congenital malformations, and the associated factors of social deprivation, and ethnicity.

The report contains a number of recommendations. There should be more support for external groups to review stillbirths and neonatal deaths. This will help to identify common themes in relation to clinical care and will provide learning opportunities.
The neonatal intensive care capacity and resources should reflect the increase in the numbers of infants less than 24 weeks being provided intensive care.
Hospitals should adopt the use of the BAPM perinatal optimisation pathway in order to improve preterm outcomes[2]. The key toolkit items for preterm infants are: optimising the place of birth, antenatal steroids, antenatal magnesium sulphate, intrapartum antibiotics, optimal cord management -cord clamped at or after 1 minute after birth, thermo-regulation- for every 1C decrease in admission the mortality increases by 28%, volume targeted ventilation and early maternal breast milk.
In the UK the government has taken action to halve the rate of stillbirths, neonatal deaths, maternal deaths, and brain injuries by 2025.

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It is stated that there should be a targeted action plan to reduce the effects of healthcare inequalities. The causes behind the outcome variations are complex and embedded. A taskforce has been established to increase understanding of the drivers behind the disparities[3]. It will try to identify the social factors linked to poorer health outcomes and try to tackle them in order to improve the health of women and their babies. The specific items include improving education, increasing access to maternity care, and the development of a new digital framework will provide women with support to make decisions about their own and their baby's health.

In summary the MBRRACE report provides a detailed insight into the causes of perinatal mortality in a maternity service with over two-thirds of a million births annually.

JFA Murphy,
Editor.

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1. MBRRACE-UK UK perinatal mortality surveillance. UK perinatal deaths of babies
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