

## **Perinatal Statistics and Current Trends**

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The Perinatal Statistics Report<sup>1</sup>, Ireland, 2019, was published by the Healthcare Pricing Office in December 2021. It is based on data collected from Part 3 of the birth Notification Form. It is a valuable up-to-date dataset on mothers, their pregnancies, and the outcomes for their babies. The information provided is important. It is a reflection of the quality of care administered by the maternity and neonatal services, the related social circumstances, and the economic factors. It identifies what is being done well, and gives direction about where future advances and quality improvement initiatives need to be concentrated.

Perinatal statistics have been an important tool over many decades in advocating for better obstetric and neonatal care. One of the early seminal reports<sup>2</sup> was the British Perinatal Mortality Report 1958. Neville Butler, the lead author, found that over the decade 1948 – 1958, the perinatal mortality rate in the UK had only decreased from 38 per 1,000 to 35 per 1,000. This finding was both alarming and disappointing. It raised political debate at the time. The National Health Service, providing care to all of the population, had been launched in July 1948. The failure to effect a real improvement in perinatal mortality prompted planners and administrators to review the matter. It was appreciated and accepted that a new approach was needed. Following the publication there were renewed efforts to address poor nutrition during pregnancy, poor health education, poor hygiene and the expansion of medical and midwifery staff. By 1968 the perinatal mortality had decreased to 25 per 1,000 births, an improvement of almost 30%.

Similarly, the perinatal mortality in Ireland was very high in the early 1950s. Dr. Noel Browne, the minister for health, proposed the introduction of free health care for mothers and babies, the Mother and Child scheme<sup>3</sup>. The plan raised a political storm. It was opposed by a number of stakeholders and was ultimately dropped, which in retrospect was universally regarded as a missed opportunity.

The Perinatal Statistics Report 2019 offers an important insight into the profile and well-being of mothers and babies. The annual number of births and birth rate is changing rapidly. In 2019 there were 59,536 births which represents a 21% decrease since 2010 (75,600 births). However, by international comparisons, the birth rate 12.1 per 1,000 remains at the top of the European table, with Italy being the lowest at 7.0 per 1,000.

The twinning rate was 17.8 per 1,000 maternities in 2019. In 2009, the twinning rate was 15.9 per 1,000 maternities. While the birth rate for identical twins has remained the same, the increase has been seen in non-identical twins. Explanations include fertility treatments and maternal age. Older mothers are more likely to have twins.

According to the mother's county of residence, the highest number of births was in Dublin (17,436 births) and the lowest was in Leitrim (417 births).

Another related observation is the changing maternal age patterns. Sixty six per cent of births were to mothers aged 30 – 39 years, and 7% are 40 years or older. The average age of mothers has increased from 31.0 years (2010) to 32.5 years in 2019. Mary Wingfield<sup>4</sup>, an international authority on infertility has written extensively about the relationship between age and reproduction. She states that older women are at a higher risk of infertility, miscarriage, and chromosome abnormalities. She further adds that this information should be more widely known by the general population. It needs to start in the schools. In addition to teaching about contraception, pupils should be educated about how to plan for having a baby.

The reasons for the falling birth rates are complex. Some of it by choice, but other factors include career progression pressures, housing costs, and the cost of childcare. The Financial Times, Saturday 15/1/22 stated that in the UK the natural population is forecast to start declining in 3 years<sup>5</sup>. This is already happening in Japan and Germany. It is pointed out that the child benefit payments should be reviewed. At present, they barely cover a fraction of the costs of rearing a child to adulthood.

Another demographic change in Ireland in recent years has been the mother's nationality. Twenty five percent of births are to non-Irish mothers, with women from EU countries accounting for half of them.

The caesarean section rate now stands at 34.9% nationally. For multiple births the rate is 71.2%. A decade ago in 2009 the caesarean section rate was 26%.

The average weight of singleton births was 3,474g and 2,445g for multiple births. This pattern is unchanged over the last decade. The proportion of low birthweight infants (<2.5Kg) was 5.8%, with 0.9% being less than 1,500g. The prematurity rate (37 weeks gestation) was 7.0%.

The perinatal mortality rate in 2019 was 5.7 per 1,000 births. Numerically there were 339 perinatal deaths, 223 stillbirths and 116 early neonatal deaths. This places Ireland in mid-table compared with other EU countries. When adjusted for congenital malformations, the Irish perinatal mortality was 3.9 per 1,000 births. The perinatal mortality rate aged 40-44 years was 9 per 1,000 births compared with 5 per 1,000 births in younger mothers. A decade previously in 2009, the perinatal mortality rate was 6.9 per 1,000 births. This improvement in outcomes is due to further reductions in stillbirths and deaths in infants in the first week after birth.

The data related to births less than 28 weeks gestation is of particular importance to the perinatal services as they account for a high proportion of the infant morbidity and mortality. In 2019, there were 248 births in this category, 185 live births and 63 stillbirths resulting in a perinatal mortality rate 407 per 1,000. The mortality rate drops rapidly for those infants born at higher gestational ages – 149 per 1,000 at 28-31 weeks, 21.9 per 1,000 at 32-36 weeks, and 1.8 per 1,000 at term.

The challenge of extreme prematurity is being addressed in multiple ways. The categorisation of neonatal care into tertiary, regional, and local units has helped in determining where the very high risk infants should be managed<sup>6</sup>. Neuroprotection before extreme birth with antenatal steroids and antenatal magnesium sulphate is important. Skilled resuscitation, temperature control, ventilatory support and optimal nutrition are key measures in the early days after birth. One-to-one skilled neonatal nursing needs to be available in order to obtain optimal results for these vulnerable infants.

In future perinatal statistics reports it would be helpful to further break down the data for infants less than 28 weeks gestation. We know that the mortality and morbidity rises significantly for those less than 26 weeks gestation. The other consideration is that the threshold for fetal viability has been reduced from 24 to 23 weeks gestation<sup>7</sup>. It will be important to determine how this change has altered practice and outcomes.

In 2019 there were 494 inter-hospital infant transfers, almost 1% of live births. Although not stated, these neonatal retrievals would have been undertaken by the National Neonatal Transport Programme (NNTP). This programme provides a 24/7 service for the transfer of infants requiring more complex care or neonatal surgery.

Improving the breast feeding rates remains a challenge. The proportion of exclusively breast fed infants was 41.8%, compared with 72.2% for the other EU countries. On the other hand, 61% of infants recorded some feeding in 2019 compared with 54% in 2010. The HSE action plan includes a target of an annual 2% increase in breast feeding rates.

Perinatal statistics are much more than a series of numbers and tables. They provide a deep understanding of the key aspects of maternal and infant health. They provide an impetus and act as a catalyst in tackling the areas where further improvement in perinatal care may be possible. One of the key issues over the coming years is the management of extreme prematurity and the efforts to further improve the outcomes.

### **References:**

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