

## TITLE

### Temporal trends and outcomes associated with obstetric causes of preterm birth in

#### Researchers

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#### Aim

We aimed to analyse temporal trends in obstetric causes of preterm birth, and neonatal morbidity and mortality associated with each obstetric cause of preterm birth.

#### Project Outline/Methodology

We explored "The Linked Maternity Database" (SMR02/SMR11/SBR/SSBID/GRO Birth). This database contains linked maternity, neonatal and stillbirth/infant death records, with records pertaining to mother and baby held together. SMR02 (Scottish Morbidity Records 2) cover all obstetric discharges from NHS maternity units in Scotland. SMR11 (now replaced by Scottish Birth Record or SBR) are routine neonatal returns and SSBID is a record relating to Stillbirths and Infant Deaths. We examined records on singleton births between 1980 and 2005.

#### Key Results

1. There was a progressive rise in the rate of preterm birth per 1000 singleton births from 5.4% to 6.3%.
2. There was a 40% increase in medically indicated preterm births and a 10% increase in spontaneous preterm births over the study period.
3. Much of the rise in spontaneous preterm birth was due to an increase in the rate of preterm premature membrane rupture.
4. The increased rate of preterm births (as a proportion of all births) persists even after adjustment for maternal age.
5. There was no change in preterm birth associated stillbirth over the study period.
6. There was a 55% reduction in risk of neonatal death, 30% reduction in risk of extended perinatal death and a 36%

reduction in the risk of prolonged stay in hospital for the neonate over the study period.

7. Babies born alive after elective/induced preterm birth tend to be smaller than those delivering spontaneously preterm but their outcomes tend to be at least as good.

#### Conclusions

The rise in singleton preterm birth in Scotland relates almost entirely to an increase in preterm birth associated to preterm premature membrane rupture. Neonatal outcomes (with the exception of stillbirth) are generally improving.

#### What does this study add to the field?

These data for Scotland contrast with data from the US showing that increases in medically indicated elective preterm birth are the major contributor to increasing preterm birth rates.

#### Implications for Practice or Policy

Research into strategies to treat or prevent preterm premature membrane rupture is needed to prevent further increases in preterm birth rates.

The good outcomes after elective/induced preterm birth suggests that the decision to deliver these babies has been appropriate.

Policy and research should focus on reducing both elective and induced preterm birth.

#### Where to next?

Research into agents and strategies to prevent spontaneous and elective preterm birth are urgently required.

#### Further details from:

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