Inducing first-time mums aged 35 and over earlier may reduce stillbirths and neonatal deaths

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The cohort study of nearly 80,000 UK women giving birth in the NHS in England, led by the London School of Hygiene & Tropical Medicine with the University of Cambridge, showed that inducing first-time mothers aged 35 or over 1-2 weeks earlier was linked to the risk of perinatal death - the stillbirth or death of a baby within seven days of birth - falling from 26 per 10,000 pregnancies to 8 per 10,000 pregnancies.

Current UK national guidelines recommend induction of labour to be offered to pregnant women between 41 and 42 weeks of gestation - one to two weeks after the due date - to prevent risks associated with prolonged pregnancy to both the mother and the baby. Although the absolute risk of pregnancy complications, including stillbirth, are low, they are higher for women having their first baby at age 35 or over. In 2015 in England and Wales, almost 40,000 women aged 35 or over gave birth to their first baby according to the Office for National Statistics.

Hannah Knight, lead author from the London School of Hygiene & Tropical Medicine, said: "The number of first-time mothers over the age of 35 is rising. Although their risk of experiencing a stillbirth or neonatal death is relatively small, it's still very important that these women receive the best advice on how to minimise the risks to themselves and their baby. This study represents the strongest evidence yet that moving the offer of induction forward to 40 weeks might reduce the risk of

stillbirth in this specific age group, which we know face a greater risk of stillbirth and neonatal death."

A recent large randomised controlled trial2 demonstrated that induction of labour at 39 weeks of gestation has no short-term adverse effect on the mother or infant among pregnant women aged 35 years or older. However, the trial did not address the effect of routine induction of labour on the risk of perinatal death.

In this study, the authors used data from English Hospital Episode Statistics covering 77,327 first time mothers aged 35 -50 to determine whether the routine induction of labour earlier than recommended was associated with a change in risk to mother or child. They compared perinatal mortality between induction of labour at 39, 40 and 41 weeks of gestation and expectant management (continuation of pregnancy to either spontaneous labour, induction of labour or caesarean section at a later gestation). They found that pregnant women who were induced at 40 weeks had a lower risk of perinatal death of two thirds compared to women who received care according to current guidelines.

Hannah Knight said: "Whilst our study suggests bringing forward the routine offer of induction of labour to 40 weeks of gestation in first-time mums aged 35 or over may reduce the risk of perinatal death, there are other important factors to consider. There are potential downsides to such a policy, such as acceptability of induction of labour to women and the increased demand on resources. Further studies are needed to examine the impact of such a change in policy on NHS costs and women's satisfaction."

Senior author Professor Gordon Smith, Head of the Department of Obstetrics and Gynaecology, University of Cambridge, said: "The study indicates that women aged 35 or over in their first pregnancy should consider induction of labour at their due date. Our best estimate is that

one stillbirth would be prevented for every 562 inductions of labour. Some women might prefer to avoid induction and to accept this small risk. Other women may opt for induction given concerns about the possibility of stillbirth, but a key aspect of the paper is that this analysis provides the best evidence for the magnitude of the risk and allows women to make an informed choice."

The authors acknowledge limitations of the study including that it used observational data in which gestational age is recorded in weeks rather than day, it does not show cause and effect, and the potential for under-recording of induction of labour or perinatal deaths.

More information: Hannah E. Knight et al, Perinatal mortality associated with induction of labour versus expectant management in nulliparous women aged 35 years or over: An English national cohort study, *PLOS Medicine* (2017). DOI: 10.1371/journal.pmed.1002425

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