

Encouraging awareness of fetal movements is harmful



The concept that perception by pregnant women of reduced or altered movements of their fetuses can be used to predict stillbirth, thereby enabling early birth to save the baby, seems plausible.¹ However, although mothers of stillborn babies, with hindsight, remember altered movements preceding the diagnosis of the death more often than controls,^{2,3} to our knowledge, no one has ever shown this prospectively. With few exceptions,⁴ the accuracy of tests of fetal health done in response to altered movements has been poorly evaluated, and the only treatment—delivery—can harm as well as benefit.⁵ A 2015 Cochrane review⁶ on routine perinatal fetal movement counting was dominated by a cluster trial by Adrian Grant and colleagues,⁷ who investigated routine use of movement counting among 68 000 women and found that this method “did not translate into reduced perinatal mortality”.

Nevertheless, encouraging maternal awareness of changes in fetal movements remains popular; this suggestion was advocated by the Saving Babies' Lives publication by NHS England,⁸ largely on the basis of a study⁹ that compared awareness campaigns with historical controls. This is weak evidence because other changes, such as increasing the frequency of term inductions and reduced smoking among pregnant mothers, could also have prevented stillbirth.

However, in *The Lancet*, Jane Norman and colleagues¹⁰ have more thoroughly evaluated this policy. This stepped-wedge, cluster-randomised trial assessed a programme that encouraged enhanced maternal awareness and rapid reporting of changes in fetal movement, which was combined with training of staff to respond with a defined programme of further testing and, if necessary, to induce delivery. The advice to pregnant women was that they should monitor changes in movements from 24 weeks, and that they should refer themselves immediately if they detected altered movement after 28 weeks. Control centres gave usual care, and the primary outcome was stillbirth. More than 400 000 pregnancies at 33 hospitals were included, so the study was powered to exclude even modest effects. The intervention was associated with an induction rate of 41%, compared with 36% in the control group (adjusted odds ratio [AOR] 1.05, 95% CI 1.02–1.08); if the correct women had been induced and no harm

caused, this intervention should have had a substantial effect. The Saving Babies' Lives stated that the AFFIRM trial “will give us the best evidence yet”.⁸

Unfortunately, stillbirths were not significantly reduced by this intervention (AOR 0.90, 95% CI 0.75–1.07) and there was no effect on perinatal mortality (0.98, 0.83–1.17). However, appendix data showed a higher number of postneonatal deaths in those receiving the intervention than in the control group. The intervention also had associated costs, including a significantly higher use of caesarean sections of 28%, compared with 25% in the control group (1.09, 1.06–1.12), and more prolonged admissions to the neonatal unit (1.12, 1.06–1.18).

The trial was prospectively registered and well conducted, and the results are plausible. Altered fetal movements are so commonly reported that the specificity of these reports must be low; some hospitals have more women attending for this reason than for births over the same period. Repeated episodes of reduced fetal movement can be so stressful to the mother that some doctors are persuaded to induce, even if further tests are normal. There are also anecdotes of women feigning reduced fetal movements to attain an ultrasound scan or induction of labour. The prevalence of women falsifying reduced fetal movement is important because, although induction of birth at full term is unlikely to seriously harm the mother or the baby,¹¹ preterm induction has risks. With hindsight,

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the recommendation to encourage mothers to report changes from as early as 28 weeks might have been misguided. Although overall deaths were not stratified by duration of gestation, it is plausible that limiting awareness campaigns to beyond 37 weeks would be safer.

Two other cluster trials are ongoing: My Baby's Movements among 250 000 women in Australia (Australian New Zealand Clinical Trials Registry, ACTRN12614000291684) and Mindfetal among 39 000 women in Sweden (ClinicalTrials.gov, NCT02865759), so the AFFIRM authors suggest delaying policy changes until results of these trials are reported.

Nevertheless, given that the AFFIRM trial assesses a large population and is in agreement with the only previous large trial,⁷ opinion and practice leaders need to consider how current guidelines might be revised. Failure of health-care providers to respond to reported changes to fetal movement is probably impossible. However, discouraging campaigns that promote awareness preterm, improving induction guidelines, and not inducing delivery in response to perception of altered movement alone would seem to be sensible first steps.

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Stillbirths count, but it is now time to count them all

In 2015, 2.6 million stillbirths were estimated globally, more than 7100 deaths a day, with most occurring in developing countries.¹ These figures are substantial, yet they are an underestimation of the full extent of this loss because stillbirths at less than 28 weeks of pregnancy are not included in these numbers.² If the 22-week threshold was applied, the numbers have been estimated to be 40% higher.²

Survival of very preterm babies has increased considerably over the past decades in high-income countries (HICs),³ and the threshold of viability at birth has been reviewed over time.^{2,4} Although WHO recommends the 28-week threshold for international comparison of stillbirths, WHO and the International Statistical Classification of Diseases and Related Health Problems 10th Revision both recommend 22 weeks

of gestation as a threshold for ascertainment of fetal death, with registration and collation of data from 22 weeks. However, international differences in legislation, especially in HICs with differing policies on viability at extremes of gestational age and other factors including fatalism and a lack of accountability, lead to under-reporting of stillbirths.^{2,3}

In *The Lancet*, Lucy K Smith and colleagues⁴ quantified the burden of stillbirths before 28 weeks in Europe. In this population-based study, they used national cohort data from 19 European countries, collected between 2004 and 2015, with pregnancy outcomes from 22 weeks, and calculated pooled stillbirth rates and changes in rates. In 2015, more than 9000 babies were stillborn from just over 2.5 million births in Europe, and of these 6294 (32%) were stillbirths between 22 weeks

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