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Should we stop telling well pregnant women to monitor fetal movements? How to use and interpret guidelines

THE confusion articulated in the commentary by Hill-Smith[1] is interesting on several levels. Is this an example of the mess that evidence-based medicine (EBM) can get us into? It certainly raises the thorny issue of how research conducted in one place and time could usefully assist us in clinical practice in another setting. It also calls into question what good guidelines should look like.

Hill-Smith wonders whether we should ask women to routinely keep a fetal movement diary ('kick chart'). The NICE (National Institute of Clinical Excellence) guidelines suggest not — kick charts make no difference to infant mortality.[2] But there is a rider: one baby may be saved for every 1250 women routinely using kick charts. These two statements appear contradictory.

To understand them we have to go back past the NICE guidelines and read the original trial on which they are based, published in *The Lancet* 15 years ago.[3] It was a well conducted multicentre study in the United Kingdom (UK), United States (US), Ireland, Sweden, and Belgium of 68 654 women in a cluster randomised trial in which 33 clusters (a total of 31 993 women) were randomised to keep routine kick charts, and 33 clusters (of 36 661 women) were not. The principal outcome was unexplained late fetal death. There were 59 fetal deaths in the kick chart groups compared with 58 in the controls, which can be expressed as 2.9 per 1000 births for the formal counting compared with 2.7 for the controls. No differences were significant. So far it seems pretty clear that formal movement charts confer no benefit.

So where does the 1:1250 babies saved come from? It comes from the lower 95% confidence interval for the estimate of odds for the intervention groups compared with the control. The explanation between these apparently incompatible statements represents the gap between 'no evidence of effect' and 'evidence of no effect' — not the same thing by any means.

There are other considerations. Would pregnant women agree that it is worth undertaking a non-invasive test if it saved one baby in 1250? This is a question of values, a 'what is it worth?' question. We suspect that most women would say they would willingly invest the time. But not necessarily all. How many would in practice? *The Lancet* trial partly answers this: only about 50% of those women whose babies died had made use of the kick charts.[3]

But then, what should be done if women report decreased fetal movements even if not asked to do so? The NICE guidelines suggest that they should report to their midwife or hospital (another apparent contradiction). What then? Of the 17 women randomised to kick charts who did sound the alarm because of decreased movements and went on to have stillborn babies, none had an emergency delivery: every one was given false reassurance (as it turned out) following diagnostic testing (principally cardiotocography).[2] We now know that cardiotocography has unacceptably high false-positive rates, insufficient for its use antenatally for fetal assessment.[4] But times have changed. There are now other methods to assess fetal wellbeing (including biophysical profile and Doppler ultrasound of umbilical arterial flow) although even these have not been helpful in the low-risk population.[5] Perhaps the intervention failed not because of the insensitivity of women to decreased fetal movements, but because of inadequacies in the next stage of the clinical pathway. If this is the case, then we might expect things to improve if and when effective tests for fetal wellbeing are developed — presumably the hope on which this NICE recommendation is based.

Hill-Smith's careful analysis of the NICE guidelines show how hard they are to use. In particular, the apparent contradictions are likely to confuse clinicians. What would make them easier? Perhaps guidelines should adhere better to the definition 'systematised review of the evidence'[6] (rather than to inconsistent recipe-like instruction), enabling us to decide how good the information is, and giving us the flexibility to adapt the information for an individual patient — even at the cost of making us have to work it out.

Finally, how is the world reacting to this information? Are fetal wellbeing kick charts being abandoned wholesale for uncomplicated pregnancy across the globe? A quick look at the repository at The National Guideline Clearinghouse in the US (www.guideline.gov) yielded 19 hits for 'fetal movements', of which two guidelines were still recommending them for normal pregnancy. Clearly — as the trial was published so long ago — the information can be interpreted very differently!

And for the future, although the intervention might be helpful one day, the problem area is with finding the appropriate mode to further evaluate the fetus. Perhaps a Cochrane protocol under development might throw further light on the current situation by evaluating any newer studies.[7] Or perhaps it is timely to review all the current methods developed to assess fetal wellbeing. Perhaps a fresh new study is required.

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