Stress in pregnancy: effects on the child

By Jean Robinson

Though not to smoke, drink alcohol, eat unpasteurised cheese... Now, there is a new commandment. Thou shalt not become anxious. Thank heavens that one wasn't around when I was pregnant. It would have sent me spiralling down in a vortex of anxiety. It reminds me of those irritating notices you see in lifts: 'If trapped in the lift DO NOT PANIC.' It had never occurred to me to panic until they put the idea into my head.

However anxious the problem of anxiety makes us feel, we can't ignore it. There is now an overwhelming body of evidence from human and animal research that long-term stress in the womb has adverse effects on children's development and behaviour. Many of those hyperactive children who are plaguing teachers, shopkeepers and bus drivers didn't get that way just because they eat food additives, have absent dads, feckless mothers, or rotten schools. It could also be because their development was affected by constant bombardment from the stress hormones in their mothers' bloodstream. In other words their hypothalamic-pituitary-adrenal axis is now off kilter. Their thermostat is set at the wrong level.

It is nearly 30 years since research from Glasgow (Stott, 1975) first showed that children whose mothers suffered severe continuing personal tension, (e.g. marital stress) during pregnancy, were more likely to have behavioural disturbance, developmental delay, neurological dysfunction and ill health. There was a strong association between hyperactivity in the child and the mother suffering from personal tensions when pregnant. Of course many of these mothers also lived in poor social circumstances, which could cause stress in relationships, but poverty alone did not seem to cause the damage, nor did even severe short-term stresses, such as bereavement. They had the kind of stress you couldn't escape from - a 'can't get out, no win' situation. In laboratory cages, you can do the same thing to monkeys and rats and produce offspring with similar problems. What I like about the Stott study - unfashionable in medical journals nowadays where only numbers count - is the brief flavour of women's lives you get from the interviews, 'The husband is a heavy drinker, particularly at weekends when he is very abusive and often puts the wife out of the home.'

A prospective study in Copenhagen showed that both stress and smoking reduced birthweight; each could cause the equivalent of a loss of a week's growth in the womb (Lou et al, 1994). Smoking, however, did not reduce the circumference of the head, whereas stress did. It was also associated with lower neurological scores after birth.

An American prospective study of mothers' prenatal anger (which I confess to feeling rather ambivalent about) showed that angry mothers had infants with higher cortisol levels and poorer Brazelton scores (Field et al, 2002). The researchers suggest cognitive therapy, exercise and massage, but as psychiatrist Margaret Oates sensibly points out, 'It is utopian fantasy to imagine there will ever be sufficient therapists or intervention programmes to treat all anxious women', or cure the complex difficulties which underlie their problems (Oates, 2002).

The latest, most impressive, study shows strong and significant links between mothers' antenatal anxiety and stress, and behavioural and emotional problems in their 4-year old children (O'Connor et al, 2002). The effects remained constant even after controlling for postnatal anxiety and depression, birthweight and prematurity. There seems to be a direct, causal mechanism. Mothers who scored in the top 15% of the sample on anxiety pregnancy were 2-3 times more likely to have children who score above the mean for behavioural and emotional problems. Boys whose mothers had high anxiety in late pregnancy were particularly likely to be hyperactive and inattentive.

What are we going to do about all this? We could begin with real continuity of midwifery antenatal care - giving priority to sink housing estates and women at risk.

Politicians and social workers should stop blaming mothers and start exploring how society can provide the kind of 'support' which women themselves define as supportive. Too many smug professionals are ticking off the label, without providing the substance. Oh, and by the way, anyone who starts lecturing and blaming women for their own anxiety and anger and helplessness, is going to get a swift riposte from AIMS.
