Fragile foetuses

Graham Music draws our attention to the powerful and disturbing effects of drugs and alcohol on a developing foetus, and asks what we can do in response

This article raises the issue of substance misuse in pregnancy, particularly alcohol use, which in its extreme forms gives rise to the terrible symptoms of foetal alcohol syndrome (FAS). In passing, I will also mention the impact of drug use, and of high levels of stress, on the developing foetus.

First, a confession. Having worked with maltreated children for many years, I thought I knew the field well, particularly the very serious consequences of abuse and neglect. Recently, yet another lady who had adopted a son bemoaned how the school was blaming her for his classroom behaviour, saying 'well you've had him for *over a year* now' – as if any parent worth their salt would have eliminated all signs of the abusive

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years in such a short time. Martin (all names have been changed) was adopted after shocking abuse and trauma, was hypervigilant, unable to concentrate, to get on with peers or regulate his emotions, all of which are the regularly seen sequelae of trauma. We are now used to making sense of children like Martin because we understand how trauma can breed hypervigilance or poor emotional regulation.

Yet I have recently been struck by how many adopted or fostered children referred to CAMHS present with worrying behaviours linked to difficulties in self-regulation or executive functioning, poor memory and disinhibited behaviours, *yet whose life story suggests little traumatic history* that might have led to such presentations. In these cases, I have often been quick to assume that something must be amiss with the *parenting*, and so I, like Martin's teacher, can become judgmental, especially when children are adopted early. It is easier to blame and judge than feel inadequate or confused.

The case of Rachel

Rachel was 12 years old, and in therapy with an experienced therapist who I supervised. She was adopted at four months, in a planned process, by sensitive parents with experience of children and with time and energy for her upbringing. She was never easy to care for, was unaffectionate, could not accept cuddles and was hard to soothe. In nursery and school, she struggled to make friends. She could not concentrate and was extremely sensitive to the slightest stimulus. She could not bear certain things on her skin, such as labels in clothes, which had to be removed. Luckily with Rachel, we had information that we often lack. She was born addicted to heroin, and in her early months underwent 'cold-turkey', mediated by a period of methadone use. In Rachel's case, serendipitously, we had records of her early months from a student observer. Her notes made difficult reading. Like many addicted babies, she cried unremittingly, could only bear the softest material on her skin, had cold sweats and tremors, and the observer described her as 'in agony, as if attacked by unpredictable stabbings from sharp needles' as she juddered and twitched. Many such babies are hypersensitive, cannot stand bright lights, loud noises, do not breathe easily, are often low weight and have a host of physical, cognitive and emotional problems. Many suffer from irritability and hyperactivity, low tolerance to frustration, impulsiveness, and impaired concentration, but of a different kind to that seen in hypervigilant, traumatised children. Something seems to have affected their nervous systems and brain development in utero. By the time I was involved with this case, at least I understood something about the issues, and understanding

alone goes quite a long way, even before thinking about more specific ways of helping. Her therapy has made a huge difference, as has support for her parents, and she has become more regulated, softer and more affectionate, even if many original issues persist.

A lifetime's damage from prenatal stress...

What I want to flag up are the powerful and disturbing effects on the developing foetus of exposure to alcohol and drugs, and the lifetime's damage that can ensue. We know what an important period intrauterine life is. For example when a pregnant mother is very depressed or anxious, stress hormones will cross the placenta and affect the developing foetus[1]. Under stress and anxiety, our blood vessels constrict, and this means less oxygen and fewer nutrients reaching the foetus. High levels of prenatal stress can also program hormonal systems, inducing a propensity to be more reactive, release more cortisol and be more dysregulated. High prenatal stress levels, as well as drug and alcohol use, are linked with low birth weight and difficult labours, and low birth weight, in turn, is a good predictor of serious illness in middle age, such as heart attacks, strokes and diabetes, as studies from all over the world have shown[2].

Foetuses of depressed and anxious mothers, when observed via ultrasound, react more quickly than average children to stimuli such as a vibrating sound, and they also take longer to calm down. Like insecurely attached children, they struggle to return to normal. A foetus is an active being, and will move away from an amniocentesis needle, will habituate to stimuli, learn to recognise voices and smells and much more – but it is helpless in the face of the drip of toxic chemicals that cross the placenta.

...and from toxic chemicals

Mothers abusing drugs or alcohol are also likely to suffer stress or depression, but when drugs and alcohol cross the placenta this is much more dangerous than stress hormones, as these toxic chemicals enter the foetus' bloodstream and profoundly affect development. This has serious effects on the central nervous system, leading to later problems such as regulating emotions. Prenatal alcohol use can lead to major structural abnormalities in the developing brain. Early exposure can give rise to odd patterns of neuronal migration and brain organisation, whilst in the latter part of pregnancy the hippocampus, so central for memory, can be damaged. Autopsies have found a diminished corpus callosum, which links left and right hemispheres, and in mice foetuses whose mothers were experimentally exposed to alcohol, the corpus callosa are a fraction of the normal size. Possibly, though, exposure in the middle trimester is most damaging. A host of brain regions can be severely compromised, including the hypothalamus, so crucial for hormonal release, the amygdala, known as our fear centre, and the frontal lobes, so essential for executive functioning. In effect, the whole limbic system, the seat of our emotional lives, is seriously affected.

In its most extreme forms, FAS can be easy to detect, because these children have clearly dysmorphic features, such as small droopy eyes and a thin upper lip, and a low nasal bridge, often with a short, turned-up nose. These features are measurable, so we can know if a child has full-blown Foetal Alcohol Syndrome.

Yet many children exposed to alcohol at lower levels can still develop many of the psychological, cognitive and behavioural symptoms without showing the physical signs. Indeed, there is a range of symptoms and presentations which are below the threshold for full-blown FAS but which are usefully categorised under the broad umbrella of Foetal Alcohol Spectrum Disorders. The typical behavioural signs include socially inappropriate behaviour, disinhibition, poor emotional regulation, cognitive deficits, deficient working memory, inability to read social cues, low empathy, poor language and little capacity for sensory integration. These children often lie blatantly, react with volatility to unexpected changes, are defiant, blaming of others, quick to anger and easily startled. Many can make no sense of time or money. This rather shocking list is the most cursory of summaries and leaves much out.

The implications are dramatic. Many adoptive parents are at the end of their tether, feeling useless, hopeless, desperate and angry. It is common for foster placements to break down and adoptive families to disintegrate. This is not surprising, given how such children can be a 'nightmare' to spend time with. Alison, for example, was seven years old when she came to us. Already diagnosed with ADHD, autistic spectrum disorder, dyspraxia and learning disabilities, she was in a specialist school that was struggling to cope. Both parents were highly experienced, one a psychotherapist and the other an accomplished social worker. Yet none of the tricks they had learnt, nor skills they had painstakingly gleaned, seemed to work. Their relationship was in tatters, and they seemed to be literally traumatised. Many parents with children diagnosed with worrying disorders are indeed traumatised, as Klauber points out[3].

Implications for therapists

A danger with an article like this is that readers feel as hopeless and shocked as others in these children's lives. However, I think we need to look unflinchingly at this problem and think about

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what the implications are, even if, as yet, we have few answers.

We do have some clear pointers, though. One obvious level of intervention is prevention. We have generally conceptualised early intervention as meaning soon after birth but we now know how crucial pregnancy is. Some help can come in the form of basic education. No one knows the effects of having a few drinks, although we can still preach caution, but we do know that a single episode of binge drinking can have a deleterious effect, as of course can addictive drugs. There are plenty of websites with lots of information about FAS that people can be pointed to. We could help by screening those whose mental state suggests they are at risk of resorting to substances.

Emotional and psychological support make a big difference. Early studies in the 1970s showed that having supportive partners in the birth process eases deliveries and lowers many risks. From research, we also know about the Family Nurse Partnership[4], which offers support from trained nurses who visit mothers from pregnancy and into the early months, and that this has positive effects on child outcomes as late as early adolescence. Counselling and emotional understanding can have a big effect, as can ensuring that social support systems are available to tap into.

Another simple tool is to take very careful histories and dig as deep as we can so that we get a sense of the likelihood of prenatal alcohol or drug use. It is surprising how often the children who end up in foster care or are adopted had substance-abusing parents.

This raises other issues. Apart from extreme cases with clear physiological signs, it is not possible to tell whether substance abuse in pregnancy was the causative factor or not. There can also be a danger of explaining everything as a result of FAS, much like it is easy to resort to explanations using 'genes' to explain that which we cannot really understand. If you only have a hammer, everything is indeed treated as a nail and it is important to keep hold of curiosity and uncertainty. In these children, it is hard to distinguish hypervigilance resulting from exposure to violence and abuse from the vigilance and thin-skinned reactivity we see in FAS children. The same is true of issues such as poor emotional regulation and executive functioning, or the inability to play symbolically. The tragedy is that too often these children have suffered shockingly both before and after birth.

Intervention

The fact that there is no 'cure' for FAS does not mean we cannot intervene using all our core psychological and emotional understandings. The work we can do is similar to that with many other clients who have seemingly intractable organic issues, such as autism, CFS (chronic fatigue syndrome) or learning disabilities. The danger is that we throw our hands up and say that there is nothing to be offered other than tea and sympathy, physiological help or behavioural management. These children are psychological beings like the rest of us. Each child needs to be understood for their own specific idiosyncrasies and character traits. Such children feel things very deeply. They are, like all children, extremely sensitive to their emotional environments and understand when someone is not attuned to them, when they are being patronised, when they are not understood or taken seriously. We can learn to pick up vital information from subtle physiological signs, a foot suddenly tapping hard, the hand over the mouth, the startled look in the eye, eyes moistening, the glazed over semi-angry look.

In Alison's case, when she was spoken to soothingly by someone who had made sense of what was going on inside her, she calmed down. It was obvious that she was listening from the slight cock of the head. When a hyperaroused state was responded to by her therapist with expressive understanding of her feelings, she calmed down, her internal states modulated by containment from her therapist. She seemed to need to evacuate unmanageable feelings, and those in her vicinity were the recipients, but if they could bear with and make sense of these projections, it helped. Understanding her sensitivity to change and disruptions of routine also helped. All this makes a huge difference.

The kind of thinking developed by the Tavistock's Learning Disability Service and pioneered brilliantly by Valerie Sinason, can be life-enhancing[5,6]. As always, understanding what is at the root of behaviours is crucial; otherwise such children can too often be seen as simply 'naughty' or 'wilful'. Yet knowing they have a profound handicap can also lead to a danger of them being treated as rather odd physiological specimens, and then their humanity is taken away. As with many with profound disabilities, it is often easier to resort to platitudes and condescension to protect ourselves from the emotional realities of their lives, of their fantasies, worries, fears and hopes. When they hit adolescence, their bodies are affected by the same hormones as other young people, they have the same urges and are equally overwhelmed. Having a disability like this can make children much more vulnerable; they are likely to receive less empathy, care and support, and this means that their diminished capacity for psychological growth will be even less likely to reach its potential. They can also be at risk of further abuse. Without therapeutic help for them, and support for the adults in their lives, they can develop secondary defences which overlay the

original deficit, such as acting more helpless than they really are or 'playing stupid'. The skills of counsellors and therapists can help the adults in the children's lives make contact with the real person, and help make their lives a little less torrid.

This field is still little understood. There are no evidence-based treatments, and, apart from on websites, still too little has been written about these children and their lives. In summary, there is a need to recognise and acknowledge the serious effects of substance abuse in pregnancy, while being careful not to see FAS where it might not exist. Our main role will often be in supporting the parents and other professionals, but therapeutic work with the children can, I believe, make an important difference. We can also be on the lookout for vulnerable pregnant mums who might be at risk of abusing substances. Most importantly, we can try our best to remember that, whether the damage is mild or extreme, children affected by such issues are psychological and emotional beings, with minds and feelings, and they should be met and understood at that level. ■

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