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From the Editor's desk

By Peter Tyrer

Deconstructing the gene–environment bundle

Recently we published a paper on the long-term outcome of patients with phenylketonuria and intellectual disability.[1] This could have been entitled 'the long-term outcome of a gene–environment interaction between phenylketonuria and diet' but would have puzzled our readers as the phenylketonuria story is so well known – if a phenylalanine-free diet is given to affected infants, the toxic effects on the brain of excessive phenylalanine are prevented, but not unfortunately in those who are detected too late[1] – and to label this a gene–environment interaction appears quite unnecessary. So why do we wax so eloquently about gene–environment interactions in our current psychiatric research? We are all to some extent seduced by the idea that the long-standing debate about the relative contributions of nature and nurture in the causes of mental disorder can somehow be resolved by elegantly derived explanations that allow some people with a particular gene combination to be susceptible to illness only under certain environmental conditions. This could allow us to place these disorders in the mainstream of medicine and feel that at last we have made our battered psychiatric diagnoses respectable. But are we now getting our come-uppance? The paper by Zammit *et al* (pp. 207–211) shows, pretty convincingly in my opinion, that the demonstration of a gene–environment interaction is, in itself, not much of a scientific achievement. As Kendler & Gardner (pp. 170–171) put it, once we have found evidence of interaction 'our main approach should always be to maximise our ability to predict and explain', such as with phenylalanine and phenylketonuria.

So we must not rush ahead of ourselves in explaining, for example, the relationship between depression and stressful life events entirely, or even mainly, in terms of the contribution of the serotonin transporter genotype, despite the excitement that followed the discovery of this interaction.[2] A recent meta-analysis gave no support to the notion that this genotype alone or in interaction with stressful life events is associated with a greater risk of depression[3] and although data of this nature can be challenged[4] it is probably now premature to give credence to this association to individuals who have been tested[5] until we have more evidence. Nobody doubts that most of us, if not all, are born with some predisposition to psychiatric disorder that is likely to be manifest by environmental factors[6,7] – even psychosis is not immune from this general trend (Kelleher *et al*, pp. 167–169) – and Vreeburg *et al* (pp. 180–185) illustrate this well with regard to the cortisol awakening response and its possible link to depression. What we really need now is another phenylketonuria story. If, for example, neural maldevelopment of the cavum septum pellucidum were linked clearly to abuse or deprivation in childhood, its link with antisocial behaviour (Raine *et al*, pp. 186–192) would not only be explained but tell us better how to prevent it, and this would be progress indeed.

Home visits and letter-box therapy

Many of our skills in psychiatry lie fallow because the patients who might benefit from them choose not to seek treatment, often because of different cultural values and attitudes (Bhui *et al*, pp. 172–173).[8] So we have to go to them, begging for the opportunity to help, an activity that often puzzles our fellow physicians whose patients are usually demanding more access, not less. I was reminded of this when reading the paper by Gater *et al* (pp. 227–233) where in their innovative intervention for depression the women were courted – I do not think this is too strong a word – through home visits by facilitators. I am not sure what qualifications were demanded in the recruitment of facilitators but ineffable charm and patience seem to be the main requirements. In addition to dealing with grumpy recalcitrant carers as well as potential patients the facilitators also had to fix up taxi services for the treatment sessions. It is not surprising that with all these services being laid on that the women 'felt obliged to attend as the group facilitators had made elaborate arrangements and the participants felt they should not let them down'.

Whether their findings would be replicated in a standard service is quite another matter, because in most countries psychiatrists and their colleagues are becoming averse to home visits, never mind arranging taxi services. But I would encourage colleagues to continue this line of approach. In my work as a community psychiatrist I felt it was only fair to let people know when I had made a special effort to see patients at home, even if they refused to answer the door or greeted my knocking with mere stubborn silence. I therefore made special use of letter-box therapy, where I would introduce myself as their 'friendly local psychiatrist' who had braved the elements to make an important visit and really did need to have a word with them before I wended my weary way back home. This approach almost always yielded dividends, particularly when it was later in the evening, as I have always believed there is an oasis of underlying altruism in the most apparently selfish of people, so even an interfering psychiatrist was allowed to be pitied in the travails of his working life. So after booming into an apparent void through this small rectangular entrance to the patient's world a voice would reply and engagement would begin. But the value of this must be tested more formally in a controlled trial, with stratification for letter box sizes, before the world can be convinced.

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4 Caspi A, Hariri AR, Holmes A, Uher R, Moffitt TE. Genetic sensitivity to the environment: the case of the serotonin transporter gene and its implications for studying complex diseases and traits. *Am J Psychiatry* 2010; **167**: 509–27.

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