

In this issue

This issue contains one review of risk factors for chronic fatigue syndrome/myalgic encephalomyelitis and two commentaries. Other sets of papers examine various aspects of chronic fatigue syndrome, conduct disorder and attention deficit hyperactivity disorder.

Risk factors for chronic fatigue syndrome/myalgic encephalomyelitis

Hempel *et al.* (pp. 915–926) report findings from a systematic scoping review of 11 studies of risk factors for chronic fatigue syndrome/myalgic encephalomyelitis (CFS/ME). The authors found that a range of potential risk factors have been investigated across a number of domains, including demographic, medical, psychological, social and environmental. However, no risk factor was replicated in more than two studies. The authors conclude that definitive evidence of potential risk factors for CFS/ME is lacking.

Commentaries

There are two commentaries on the paper in this issue by Hodgins *et al.*, which examines the relationship between conduct disorder and aggressive behaviour in serious mental illness. In the first, Verdoux (pp. 927–928) makes two primary points. One, that any findings relating to violence and serious mental illness need to be considered within a wider context, in which the perceived dangerousness of people with serious mental illness is a key factor increasing stigma. Two, that whatever the relative risk, a very low proportion of societal violence is attributable to those with a serious mental illness. In the second, Harley *et al.* (pp. 929–931) note that conduct disorder in childhood is associated in general with risk of ongoing anti-social behaviour and other adverse adult outcomes, such that primary prevention may have the most impact in reducing the long-term effects of conduct disorder.

Chronic fatigue syndrome

Four papers examine various aspects of CFS. In the first, Harvey *et al.* (pp. 933–940) investigated the relationship between CFS and prior mental disorder at age 53 in a sample of 5362 subjects drawn from a national birth cohort. The authors found that those who had experienced a mental disorder between the ages of 15 and 36 years were over two and a half times more likely to report CFS later in life. Severity

of previous mental disorder was associated in a dose–response fashion with later CFS. The authors conclude that mental disorders, or shared risk factors for mental disorders, are likely to have a causal role in some cases of CFS.

Caseras *et al.* (pp. 941–951) explored functional brain responses to imagined experiences of fatigue in 12 subjects with CFS and 11 controls, using functional magnetic resonance imaging (fMRI). The authors found that, during the provocation of fatigue, compared with controls, cases showed increased activation in the occipito-parietal cortex, posterior cingulate gyrus and para-hippocampal gyrus, and decreased activation in dorsolateral and dorsomedial prefrontal cortices. During anxiety-provoking scenarios, the reverse was found.

Ismail *et al.* (pp. 953–961) examined the prevalence of CFS and other related disorders in a sample of 111 UK Gulf War veterans (1990–1991) and 133 UK non-Gulf War veterans who had reported a physical disability. The authors found that, compared with non-Gulf veterans, the Gulf veterans were more likely to be overweight, have elevated γ -glutamyl transferase, and screen positive for hypertension. Gulf veterans were almost eight times more likely to meet criteria for CFS than non-Gulf veterans. Other medically unexplained symptoms were not more common in Gulf veterans. The authors conclude that symptoms of CFS account for a significant amount of the distress experienced by Gulf War veterans.

Van Den Eede *et al.* (pp. 963–973) investigated hypothalamic–pituitary–adrenal (HPA) axis function in CFS, using the dexamethasone/corticotropin-releasing factor (Dex/CRF) test, in a sample of 34 female subjects with CFS and 25 controls. The authors found that salivary cortisol responses were lower in cases with CFS than controls following 0.5 mg Dex. When subjects ($n=10$) who were taking an oral oestrogen were removed from the analyses, the authors found that cases without a history of early life stress, assessed using the Structured Trauma Interview, had lower cortisol responses than cases with a history of early life stress and controls. The authors conclude that CFS is associated with reduced cortisol responses, but that this is most clearly evident in those without a history of early stress.

Conduct disorder (CD)

Four further papers examine aspects of CD. Hodgins *et al.* (pp. 975–987) investigated the relationship

between conduct disorder prior to age 15 and aggressive behaviour and criminal convictions in a sample of 205 current in-patients with a severe mental illness. The prevalence of CD was 42% in men and 22% in women. The authors found that a diagnosis of CD and number of CD symptoms were associated, independent of alcohol and drug use, with (a) an increased lifetime risk of assault, (b) aggressive behaviour in the preceding 6 months, and (c) convictions for violent crimes. These associations held for men and women. The authors conclude that severely mentally ill patients with a history of CD may benefit from treatments designed to reduce antisocial behaviour.

Bongers *et al.* (pp. 989–999) examined the long-term consequences for social functioning of childhood and adolescent externalizing problems in a sample of 2076 subjects drawn from a longitudinal multiple birth cohort study. The authors found that children with high levels of opposition and status violations were more socially impaired in adulthood than those with high levels of aggression and property violations. Earlier age of onset of externalizing problems was associated with more impaired social function in adulthood. Men were more socially impaired than women, with the exception that women with high levels of externalizing behaviour had more impairment in relationships.

Kendler *et al.* (pp. 1001–1011), using a genetically informative design, investigated the relationship between CD and peer deviance (PD) in a sample of 746 adult male–male twin pairs assessed for CD and PD at ages 8–11, 12–14 and 15–17, using a life history calendar. The authors found that the best fit model suggested an active developmental relationship between CD and PD, including the transmission of both traits over time and strong causal connections between the two within time periods. For genetic factors, the relationship was from CD to PD and was constant over time. For environmental factors, the relationship was from PD to CD, and was strongest in earlier age periods.

Sakai *et al.* (pp. 1013–1025) examined the prevalence and correlates of CD among Asian and Native Hawaiian/Pacific Islanders (NH/PI) in the USA in a sample drawn from the National Epidemiological Survey on Alcohol and Related Conditions. The authors found that Asian subjects were less likely (OR 0.4) and NH/PI subjects were more likely (OR 2.6) to have had CD, compared with Caucasian subjects. Within these groups, CD was associated with adult antisocial behaviour, substance use and affective disorders.

Attention deficit hyperactivity disorder (ADHD)

The four final papers examine aspects of ADHD. Biederman *et al.* (pp. 1027–1036) investigated the long-term course and correlates of oppositional defiant disorder (ODD) and conduct disorder (CD) in a sample of 112 subjects with a diagnosis of ADHD and 105 controls, who were assessed at numerous time-points over a 10-year period. The authors found that ODD persisted for a significant minority of subjects at 10-year follow-up. ODD was associated with an increased risk of CD and antisocial personality disorder at follow-up. CD, however, was more strongly associated with these outcomes. CD, but not ODD, was associated with substance use, smoking and bipolar disorder.

Gudjonsson *et al.* (pp. 1037–1044) examined the relationship between ADHD and suggestibility, compliance and false confessions to police in a sample of 90 male prisoners. The authors found that 50% of prisoners met criteria for childhood ADHD and, of these, 60% were currently symptomatic. ADHD symptoms were associated with compliance and false confessions, but not suggestibility. The authors conclude that such findings raise questions about the capacity of those with ADHD symptoms to cope with interrogation.

Biederman *et al.* (pp. 1045–1056) investigated the structural brain correlates of co-morbid ADHD and bipolar disorder (BD) in a sample of 31 adults with ADHD and BD, 18 with BD, 26 with ADHD and 23 healthy controls. The authors found that both brain structures associated with BD only (e.g. smaller orbital prefrontal cortex, larger right thalamus) and with ADHD only (e.g. less neocortical grey matter, a smaller right anterior cingulate cortex) were also evident in those with co-morbid BD and ADHD. The authors conclude that, in those with ADHD and BD, brain volumetric abnormalities consist of structures altered in both disorders individually.

In the final paper, Haberstick *et al.* (pp. 1057–1066) examined genetic and environmental contributions to three childhood ADHD symptom dimensions (inattentive, hyperactivity-impulse, combined), assessed retrospectively, in a sample of 3896 young adults. The authors found that additive genetic effects contributed modestly to each of the ADHD subtypes (heritability estimates from 0.30–0.38). Individual specific influences accounted for the remaining variance. The authors conclude that these results are in line with findings based on current assessments of ADHD symptoms.

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