

## EDITORIAL COMMENTARY

## The importance of mental fatigue

The paper by Christodoulou *et al* in this issue of the *Journal* (pp 431–4) draws attention to memory deficits in some patients with operationally defined chronic fatigue syndrome, and days of (enforced) physical inactivity. Many studies have assessed cognitive dysfunction in patients with chronic fatigue. The earliest reported superior abilities in such patients against controls or age matched normal subjects, probably reflecting a biased selection of cases from higher socioeconomic groups. Later studies have been the subject of at least two major reviews.<sup>1 2</sup>

Patients with chronic fatigue syndrome do not have clear evidence of either general intellectual decline, sensory deficits (assessed using evoked potentials), or perceptual impairments. Reaction times have, not surprisingly, been found to be slower. Deficits do emerge in patients attempting complex tasks involving effortful processing or divided attention. Some studies which did not find memory deficits in patients with chronic fatigue syndrome, nevertheless showed them to be more susceptible to interference and, curiously, not helped by cueing. Despite most studies finding little objective evidence of cognitive dysfunction, patients with chronic fatigue syndrome complain of more impairment than normal or depressed controls. This subjective cognitive impairment has been found to be strongly related to fatigue, anxiety, and severity of depressed mood.

Depression and anxiety are common in patients with chronic fatigue syndrome and cognitive dysfunction (especially impairment in short term memory and information processing) has been reported in patients with affective disorders. The current study took careful steps to try to exclude depression as a cause of functional impairment and did so using both a diagnostic interview and a self reported questionnaire. It is still possible that some patients with chronic fatigue syndrome, especially those attending specialist clinics, may have minimised their psychological symptoms for fear of being told that their fatigue was “all in the mind” or because of strong beliefs about the non-psychiatric status of the syndrome. Nevertheless the implication that there is a direct relation between mental and physical fatigue is supported by this study.

Christodoulou *et al* found that patients who failed more tests of cognitive function (especially those assessing verbal memory) reported more days of inactivity. The laboratory

assessment of cognitive impairment may be an underestimate of actual dysfunction experienced in everyday life.

Recent randomised controlled trials of cognitive behavioural therapy (graded activity and cognitive restructuring) show it to be superior to relaxation therapy in the treatment of functional impairment and fatigue in patients with chronic fatigue syndrome, independent of mood change. The fatigue scale used in one such study<sup>3</sup> includes several items of cognitive fatigue and these showed the same improvement as the more physical items (S Wessely, personal communication) in response to a cognitive behavioural therapy programme which did not include specific neurocognitive remediation. Hence the subtle but definite cognitive impairment in chronic fatigue syndrome documented in the current study seems to be part and parcel of the disorder. Some authors have tended to place undue weight on the neuro prefix to neuropsychological tests, overinterpreting poor scores as indicative of neurological damage or brain disease. Clearly, such interpretation is premature (see Cope *et al*<sup>4</sup>). The problem of direction of causality is also relevant as inactivity itself may reduce alertness and cognitive speed. The treatment studies highlight this by showing that increased activity leads to improved general cognition.

Cognitive impairment is a strong predictor of functional deficits in conditions as varied as Alzheimer's disease and schizophrenia. On the strength of this study the same can now be said of chronic fatigue syndrome. As such the paper serves to bring chronic fatigue further into the mainstream of neuropsychiatric disorders and underscores the disability which often accompanies the syndrome.

MICHELLE V LAMBERT  
ANTHONY DAVID

Section of Neuropsychiatry, Kings' College School of Medicine and Dentistry and the Institute of Psychiatry, London SE5 8AF, UK

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