



Myalgic Encephalomyelitis, Chronic Fatigue Syndrome, and Chronic Fatigue: Three Distinct Entities Requiring Complete Different Approaches

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Abstract

Purpose of Review A recent review implicates that myalgic encephalomyelitis (ME), chronic fatigue syndrome (CFS), and chronic fatigue are part of the “fatigue spectrum” and recommends “longitudinal studies integrating biopsychosocial approaches to inform early management and targeted rehabilitation strategies.”

Recent Findings ME is a neuromuscular disease distinguished by muscle fatigability (prolonged muscle weakness after minor exertion) and specific signs of neurological dysfunction. ME is not equivalent to CFS, as proposed by the authors. CFS is defined as unexplained chronic fatigue accompanied by at least four out of a list of eight specific symptoms. CFS is a distinct clinical entity and not merely a severe variant of CF, as suggested. Proof that CF, CFS, and ME are part of a “fatigue continuum” and that CF can convert to CFS at a later stage is lacking. Biopsychosocial approaches for early management and rehabilitation of CF, as promoted by the authors, are at odds with the current understandings of ME, CFS, and CF. The (bio)psychosocial explanatory models for ME and CFS have proven to be invalid, and the associated interventions, cognitive behavioral therapy and graded exercise therapy, have shown to be ineffective and even potentially harmful.

Summary ME, CFS, and CF are three very distinct clinical entities. Interventions justified by (bio)psychosocial models appear to be unsuccessful and potentially noxious. To develop effective treatments, it is crucial to make a clear distinction between ME, CFS, and CF and to leave the (bio)psychosocial explanations and therapies behind us.

Keywords Myalgic encephalomyelitis · Chronic fatigue syndrome · Neuromuscular disease · Biopsychosocial · Therapies · Diagnosis

A review in *Current Rheumatology Reports* [1] concludes: “Substantial overlap of self-reported psychological, physical, and functional impairments exist between chronic fatigue (CF) and myalgic encephalomyelitis (ME)/chronic fatigue syndrome (CFS)” and highlights “a need for longitudinal studies integrating biopsychosocial approaches to inform early management and targeted rehabilitation strategies.”

Firstly, ME [2•] is not a synonym of CFS [3] as suggested [1]. ME [2•, 4] is a specific neuromuscular disease with two distinctive features: muscle fatigability/prolonged muscle weakness after minor physical exertion and neurological disturbance, especially of cognitive, autonomic, and sensory

functions, while CFS [3] is defined as chronic fatigue accompanied by at least four out of eight symptoms, e.g., substantial impairment in short-term memory or concentration, tender lymph nodes, muscle pain, and multi-joint pain. While many authors suggest otherwise, ME [2•] and CFS [3] are two distinct clinical entities [5•], although patients can meet both case criteria. Findings relating to CFS [3] cannot be generalized to conclusions relating to ME [2•]. None of the 12 studies reviewed [1] studied patients with the diagnosis ME [2•].

Secondly, evidence that CFS [3] is part of a ‘fatigue continuum’ or that unexplained CF can convert to CFS at a later stage is lacking. CFS is a distinct clinical entity [3]. The authors themselves [1] found that the development of CFS [3] after an infection with Epstein-Barr virus, *Coxiella burnetii*, or Ross River virus is “predicted largely by the severity of the acute illness rather than by demographic, psychological, or microbiological factors” [6] and that “genetically determined variations in the intensity of the inflammatory response

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underpin the severity of the acute sickness response and predict the recovery time across varied infections” [7]. So, post-infective CFS [3] is a direct consequence of the acute infection, not a sequel of CF.

Thirdly, cognitive behavioral therapy (CBT) and graded exercise therapy (GET) have very moderate effects or no effect at all on subjective measures, e.g., fatigue scores, no effect on objective measures, and are potentially harmful [8]. Studies by the authors [6, 7] show that (post-infective) CFS is not predicted by psychological or social factors, and others [9, 10•] have shown that biopsychosocial models used are invalid; the authors promote “biopsychosocial approaches” for “early management and targeted rehabilitation strategies.” Considering the evidence at present, it is essential to make a clear distinction between ME [2•], CFS [3], and CF, and time to leave the (bio)psychosocial models/approaches behind us.

Compliance with Ethical Standards

Conflicts of Interest The author declares no conflict of interest.

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