

# Symptom occurrence in persons with chronic fatigue syndrome

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## Abstract

This investigation compared differences in the occurrence of symptoms in participants with CFS, melancholic depression, and no fatigue (controls). The following Fukuda et al. [Ann. Intern. Med. 121 (1994) 953] criteria symptoms differentiated the CFS group from controls, but did not differentiate the melancholic depression group from controls: headaches, lymph node pain, sore throat, joint pain, and muscle pain. In addition, participants with CFS uniquely differed from controls in the occurrence of muscle weakness at multiple sites as well as in the occurrence of various cardiopulmonary, neurological, and other symptoms not currently included in the current case definition. Implications of these findings are discussed. © 2002 Elsevier Science B.V. All rights reserved.

*Keywords:* CFS; Symptoms; Diagnostic criteria

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## 1. Introduction

Chronic fatigue syndrome (CFS) remains a poorly understood and controversial disease, because the exact causal agents are unknown, physical signs and symptoms are variant, and diagnostic laboratory tests have poor sensitivity and specificity (Holmes, 1991; Jason et al., 1995). In the absence of laboratory tests or other objective indicators, case identification of CFS relies upon the clinical assessment of a constellation of symptoms that have been present for 6 or more months since the onset of the fatiguing illness (Fukuda et al., 1994). Since its emergence as a new

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disease category in the 1980s, four definitions of CFS have been proposed, but none have been empirically derived (Jason et al., 1997).

The current US case definition of CFS (Fukuda et al., 1994) requires that the following criteria be met for diagnosis: (a) 6 or more months of persistent or relapsing chronic fatigue of a new or definite onset that is neither the result of ongoing exertion nor alleviated by rest, which results in substantial reductions in previous levels of occupational, educational, social, or personal activities; and (b) the concurrent occurrence of at least four of eight symptoms (postexertional malaise, unrefreshing sleep, memory and concentration difficulties, new headaches, sore throat, lymph node pain, muscle pain, and joint pain) that persist or reoccur during 6 or more months of the illness and do not predate the fatigue.

Researchers have sought to validate the criteria for CFS established by the CDC using factor analytic methods. Nisenbaum et al. (1998) found that three correlated factors (fatigue-mood-cognition symptoms, flu-type symptoms, and visual impairment symptoms) explained a set of additional correlations between fatigue lasting for 6 or more months and 14 inter-related symptoms. No factor explained observed correlations among fatigue lasting for 1–5 months and other symptoms, indicating that only fatigue lasting 6 or more months (with selected symptoms) overlaps with published criteria to define CFS. In another study, Friedberg et al. (2000) examined symptoms of patients with CFS who had an illness duration of 10 or more years and found three factors: cognitive problems, flu-like symptoms, and neurologic symptoms.

Other research has focused on classifying persons with CFS based on symptom profiles. Using latent class analysis, Hadzi-Pavlovic et al. (2000) determined that patients with CFS could be grouped into three classes: those with multiple severe symptoms, those with lower rates of cognitive symptoms and higher rates of pain; and those with a less severe form of multiple symptoms. Participants with a less severe form of multiple symptoms tended to be younger and with shorter illness duration. Jason and Taylor (2002) performed a cluster analysis of persons in a community-based sample of persons with chronic fatigue (fatigue lasting 6 or more months) to define a typology of chronic fatigue symptomatology. Among the participants with CFS, findings suggested that a majority of individuals with moderate to severe symptoms could be classified into two important subgroups: one distinguished by severe postexertional malaise with fatigue that was partially alleviated by rest; and one distinguished by severe overall symptomatology, severe postexertional malaise, and fatigue that was not alleviated by rest.

Researchers have also examined the occurrence of specific symptoms reported by persons with chronic fatigue and CFS (Hartz et al., 1998; Komaroff et al., 1996). Komaroff et al. (1996) examined the occurrence of minor symptoms (Holmes et al., 1988), as well as respiratory, gastrointestinal, neurologic, rheumatologic, cardiac, and miscellaneous objective and subjective symptoms that were not included in the 1988 case definition. The occurrence of these symptoms were compared among persons with severe, disabling fatigue lasting for 6 or more

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