

Symptom patterns in long-duration chronic fatigue syndrome

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Abstract

Objective: Our objective was to evaluate symptom patterns in patients with chronic fatigue syndrome (CFS) who were ill for 10 or more years. **Methods:** This cross-sectional self-report study compared patient groups with long-duration (median = 18 years; $n = 258$) and short-duration (median = 3 years; $n = 28$) CFS to a group of healthy significant others ($n = 79$) on symptomatic, neurocognitive, and psychological variables. Data were gathered from a 574-item postal questionnaire. **Results:** A principal-components analysis of CFS symptom data yielded a three-factor solution: cognitive problems; flu-like symptoms; and neurologic symptoms. Compared with the short-duration CFS group, the long-duration group had significantly higher CFS symptom severity scores ($p < 0.04$), largely attributable to increased cognitive difficulties. A sub-

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group comparison of subjects ill for < 3 years versus those ill 4–7 years suggested that denial coping strategies were more likely in those participants with the shorter illness duration. Significant differences between both CFS groups and healthy controls were found in a number of comorbid disorders. Participants with CFS most often endorsed immune/viral abnormalities and persistent stress as important perceived causes of their illness. **Conclusion:** Participants with long-duration CFS reported a large number of specific cognitive difficulties that were greater in severity than those reported by participants with short-duration CFS. The pattern of comorbid disorders in the CFS groups was consistent with hypersensitivity and viral reactivation hypotheses. © 2000 Elsevier Science Inc. All rights reserved.

Introduction

In the early 1990s, some articles on chronic fatigue syndrome (CFS), a disabling illness of uncertain etiology, stated that CFS was a self-limiting condition that resolves in 2–5 years [1,2]. Subsequent longitudinal investigations of CFS have suggested that the majority of patients experience slight to substantial improvements 1.5–4 years after medical evaluation, although $< 10\%$ of respondents report complete recovery [3].

A review of five CFS research samples [4] revealed an average illness duration of 52.6 months based on the self-reports of 407 patients meeting the 1988 Centers for Disease Control criteria for CFS [5]. Patients who have been persistently ill for > 10 years have not been described in the literature. Recognition of the symptomatic and psychological characteristics of this long-duration group is important to the conceptualization of CFS

as an illness that may not lead to recovery or significant improvement for a substantial number of patients.

Given the uncertain etiology of CFS, investigators have queried patients about perceived causal factors. Much of this work has been done using a perceived causality rating, ranging from “purely physical” to “purely psychological,” as an outcome predictor in cognitive behavioral interventions [6–8] and in prospective naturalistic studies [9,10]. Because a single rating may obscure the potentially complex representations patients have about the causes of their illness, we explored a number of perceived causes determine how long-duration patients view their illness in comparison with short-duration patients.

Psychological coping strategies for people with CFS of long-duration may also be different in comparison to short-duration cases. Fennell [11] proposed a four-stage model of psychological adjustment in people with CFS. Patients in the initial stage may utilize denial coping by engaging in desperate attempts to maintain activ-

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ity at premorbid levels. A coping style of denial has been associated with relapse [12] and greater illness burdens [13] in CFS. In the final stage of this progressive model, patients are more likely to accommodate to illness limitations and self-regulate illness behavior and coping styles to achieve greater control over their lives. Accommodation to illness symptoms in CFS has been associated with lower anxiety [14]. We examined the hypothesis that people with CFS of short-duration attempt to maintain activity at the risk of increasing symptoms and relapse, whereas individuals with long-duration CFS are more likely to accommodate their behavior to illness limitations.

Finally, we explored the consistency of our self-report data from CFS patients with hypotheses regarding illness onset and persistence, including hypersensitivity reactions and viral reactivation. Hypersensitivity is a general label applied to excessive or adverse physical or psychological reactions to a variety of stressors or substances, including drugs [16–19], vaccines [18,19], yeasts [18,19], parasites [18–20], certain foods [21–23], airborne allergens [18,19,24], and posttraumatic stress [25,26]. The symptoms produced by hypersensitivity reactions are recurrent, involve many organ systems, and are elicited by exposure to the offending stressor or substance. Initial evidence for a hypersensitivity hypothesis [27] indicated that people with CFS report significantly greater increases in physical and psychological symptoms in reaction to mental stress, as compared with psychiatric and healthy control groups. It has been proposed that hypersensitivity in CFS may arise from the four classic types of immunologic hypersensitivity: (allergies) [24], neurohormonal sensitization [28], or limbic kindling [29,30], which is a type of central nervous system sensitization. To study hypersensitivity, we examined the possibilities that: (a) people with CFS have higher levels of self-reported allergies and chemical sensitivities than healthy controls; and that (b) allergies and chemical sensitivities are related to CFS symptom severity.

In addition to hypersensitivity, a viral hypothesis of CFS will also be examined, based on frequently reported flu-like symptoms in CFS [31] and evidence of herpes virus reactivation in CFS [32]. A recent viral model [33] proposes that a herpes virus (Epstein–Barr virus or cytomegalovirus) infection of the heart damages the heart and triggers exertion intolerance, a key symptom of CFS. This symptom-producing infection flares when the infected individual exerts him/herself. Evidence of possible cardiac involvement has been reported in two case series [33,34] using 24-hour electrocardiographic monitoring. In the initial study [33], 21 of 87 (24.1%) CFS patients showed abnormal left ventricular dynamic function, a possible sign of viral infection. A subsequent study [34] of 67 CFS patients who were matched to healthy controls revealed significantly higher levels of

oscillating T-wave abnormalities in the cardiac output of CFS patients. Further research using cardiac biopsies would be necessary to establish the presence of a herpes virus infection. To examine a viral hypothesis in CFS, we assessed the frequency of several virally related comorbid conditions. Overall, the present cross-sectional study characterized symptomatic, neurocognitive, and psychological aspects of patients with CFS who had been ill for ≥ 10 years and compared their responses to a short-duration CFS group, and a healthy control group.

Methods

Participants

Three hundred ninety-eight participants who reported having CFS for ≥ 10 years and 47 participants who reported having CFS for ≤ 7 years or less were initially recruited through: (1) advertisements in the *CFIDS Chronicle*, an American news journal for people with CFS; (2) ads in other CFS newsletters; (3) talks given to CFS patient organizations; and (4) physician referrals. For comparison, spouses, partners, or significant-others of the long-duration participants were asked to participate in the study.

CFS diagnoses were approximated as follows: (1) Participants indicated on a questionnaire if they had been evaluated and diagnosed by one of 19 prominent CFS research physicians, another physician, or if they had self-diagnosed their condition. In the long-duration group ($n = 285$ scorable questionnaires), no significant differences were found on CFS symptom or demographic variables between researcher-evaluated (75), non-researcher-evaluated (198), and self-diagnosed (12) participants. Also, in the short-duration group, no significant differences were found on CFS symptom or demographic variables between the three designated sources of evaluation and diagnosis. (2) CDC-defined symptoms of CFS [35] were compared with the endorsements of these symptoms by study participants. These symptoms include persistent, unexplained fatigue; substantial impairments in occupational, social, or recreational activity; and four out of eight additional symptoms. A CFS diagnosis was made for those participants who: (a) endorsed the definitional symptoms sometimes, often, or always; (b) indicated a 40% or greater limitation in occupational, social, or recreational activity; and (c) indicated that they had no history of multiple sclerosis, systemic lupus erythematosus, or AIDS.

Procedure

A canvassing questionnaire was returned by the 398 long-duration participants who initially responded to our recruitment efforts. Subsequently, the data were obtained from a second 574-item questionnaire mailed to the long- and short-duration CFS participants. A

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