

Current Trends in Medicine

Review Article

Emerging Role of patient satisfaction surveys in the Diagnosis of chronic fatigue syndrome

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Received: 12 January 2025; Accepted: 12 April 2025; Published: 16 July 2025.

Citation of this article: Olsen A, Johansson M, Hansen K (2025) Emerging Role of patient satisfaction surveys in the Diagnosis of chronic fatigue syndrome. Curr Trends Med, 7(1): 01-06. DOI: [10.5281/zenodo.22813647](https://doi.org/10.5281/zenodo.22813647)

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Abstract

Background: Chronic fatigue syndrome (CFS), also termed myalgic encephalomyelitis (ME), lacks a validated biomarker, so diagnosis still rests on symptom-based case definitions such as the Fukuda and Canadian Consensus criteria applied within a diagnostic encounter that patients frequently describe as unsatisfactory [2,3].

Objective: This review examines whether patient satisfaction surveys, alongside validated patient-reported outcome measures, can usefully inform and shorten the diagnostic pathway for CFS/ME.

Methods: We narratively synthesized peer-reviewed case-definition studies, validated patient-reported outcome instruments, and patient-satisfaction and healthcare-experience surveys addressing the CFS/ME diagnostic pathway.

Results: Structured instruments such as the DePaul Symptom Questionnaire and Chalder Fatigue Scale improve the consistency of case ascertainment [13,14], yet satisfaction and healthcare-experience surveys repeatedly document diagnostic delay of several years and low confidence in the diagnostic encounter, particularly where a biopsychosocial framing is perceived as dismissive [9,8].

Conclusions: Embedding validated satisfaction and outcome instruments alongside consensus case definitions could shorten diagnostic delay and improve the perceived legitimacy of the CFS/ME diagnostic process, though purpose-built diagnostic-satisfaction tools remain underdeveloped.

Keywords: chronic fatigue syndrome; myalgic encephalomyelitis; patient satisfaction; diagnostic delay; patient-reported outcomes

1. Introduction

Chronic fatigue syndrome (CFS), also known as myalgic encephalomyelitis (ME) or, in the 2015 United States Institute of Medicine nomenclature, systemic exertion intolerance disease, remains a diagnosis made entirely on clinical grounds [1]. No laboratory test, imaging finding, or histological marker distinguishes it reliably from other causes of chronic fatigue, so clinicians instead apply one of several overlapping consensus case definitions, most prominently the 1994 Centers for Disease Control criteria authored by Fukuda and colleagues and the 2003 Canadian Consensus Criteria [2,3], with the International Consensus Criteria offering a more restrictive alternative emphasising post-exertional neuroimmune exhaustion [4]. Because these frameworks were developed for research case ascertainment rather than routine clinical use, applying them consistently in everyday primary care has proved difficult, and community-based prevalence studies using the same criteria have produced estimates that vary several-fold depending on how symptoms are elicited and scored [5,6,7].

Alongside this diagnostic uncertainty, a large and largely separate literature has documented how patients experience the process of being diagnosed, or of waiting, sometimes for years, to receive a diagnosis at all. Surveys conducted by clinical services, research groups, and patient organisations consistently report low satisfaction with the diagnostic encounter, frequent dismissal of symptoms as psychological, and a diagnostic pathway that many patients describe as adversarial rather than collaborative [8,9,10]. These two literatures, one concerned with the psychometrics of case definitions and patient-reported outcome instruments, the other with patient satisfaction and healthcare experience, have rarely been brought together explicitly. This review asks whether satisfaction survey data, used alongside validated patient-reported outcome measures, has an emerging and underexploited role in the diagnostic pathway for CFS/ME, both as a signal that flags diagnostic delay and as

a structured input that could make the diagnostic encounter itself more consistent.

Table 1: Principal patient-reported outcome instruments used to support case ascertainment in chronic fatigue syndrome/myalgic encephalomyelitis, with their main symptom domains and reported diagnostic role [13,14,16,17,15,29].			
Instrument	Symptom domains assessed	Items	Reported diagnostic role
DePaul Symptom Questionnaire	Fatigue, post-exertional malaise, neurocognitive, sleep, autonomic	~50 core items	Operationalises Fukuda, Canadian and ICC criteria in one instrument [13]
Chalder Fatigue Scale	Physical and mental fatigue severity	11	Quantifies fatigue burden at diagnosis and over follow-up [14,15]
SF-36 Health Survey	Generic physical and mental function	36	Distinguishes functional disability from fatigue in other conditions [16]
CDC Symptom Inventory	Case-definition minor symptom counts	8-item core set	Standardises symptom-count ascertainment for surveillance and diagnosis [17]

2. Methods

This is a narrative review rather than a systematic review, reflecting the heterogeneity of the source literature, which spans case-definition validation studies, psychometric instrument development papers, cohort and registry studies, randomised trials, and patient-satisfaction surveys conducted by both academic groups and patient organisations. We searched PubMed and Google Scholar using combinations of the terms "chronic fatigue syndrome," "myalgic encephalomyelitis," "case definition," "patient-reported outcome," "patient satisfaction," "diagnostic delay," and "healthcare experience," supplemented by hand-searching the reference lists of retrieved reviews. English-language peer-reviewed articles addressing diagnostic criteria, diagnostic instruments, or patient satisfaction/experience relevant to the CFS/ME diagnostic pathway were included; we did not restrict by study design given the review's synthetic rather than quantitative-meta-analytic aim. Findings were organised thematically around four

questions: how case definitions for CFS/ME have evolved, which patient-reported instruments are used as diagnostic aids, what satisfaction surveys reveal about the diagnostic encounter, and how diagnostic delay and the biopsychosocial controversy relate to that dissatisfaction.

3. Results

Evolution of diagnostic case definitions for chronic fatigue syndrome

The Fukuda criteria, published in 1994, require six or more months of unexplained persistent or relapsing fatigue accompanied by at least four of eight minor symptoms, and remain the most widely used research case definition despite being criticised for permitting diagnosis without the symptom now considered most specific to the illness, post-exertional malaise [2]. The 2003 Canadian Consensus Criteria made post-exertional malaise a mandatory feature and added neurological, autonomic, and immune manifestations, producing a narrower and, proponents argue, more clinically coherent phenotype [3]. The International Consensus Criteria went further, replacing "chronic fatigue syndrome" terminology with "myalgic encephalomyelitis" and requiring post-exertional neuroimmune exhaustion plus a minimum symptom burden across neurological, immune, and energy-metabolism domains [4]. The 2015 Institute of Medicine report, commissioned partly because of persistent disagreement over which criteria clinicians should use, proposed a simplified five-symptom case definition intended for frontline diagnostic use rather than research, explicitly aiming to reduce the diagnostic burden on primary care physicians who had reported low confidence in applying the older, longer instruments [1]. Comparative studies applying multiple case definitions to the same patient cohorts have shown that the choice of criteria materially changes who receives a diagnosis, with the broader Fukuda criteria capturing patients who do not meet the more restrictive Canadian or International Consensus definitions [11,12].

Patient-reported outcome measures as diagnostic aids

Because no biomarker exists, structured symptom-inventory and functional-status instruments have taken on a quasi-diagnostic role, both to standardise case ascertainment in research and to document severity in clinical practice. The DePaul Symptom Questionnaire operationalises each of the major case definitions into a single structured self-report instrument, allowing a clinician or researcher to score the same patient against Fukuda, Canadian Consensus, and International Consensus criteria simultaneously, and has demonstrated acceptable test-retest reliability across repeated administrations [13]. The Chalder Fatigue Scale, originally developed as an 11-item measure of physical and mental fatigue severity, is widely used to quantify fatigue burden at the point of diagnosis and to track change over time, and its psychometric properties have been reviewed extensively across clinical and community settings [14,15]. The 36-item Short Form Health Survey contributes a generic functional-status profile that helps distinguish the substantial physical disability typically reported in CFS/ME from fatigue occurring in other conditions [16]. The United States Centers for Disease Control symptom inventory has similarly been used to operationalise case-definition symptom counts for both surveillance and individual diagnostic assessment [17]. Table 1 summarises the principal instruments and their reported diagnostic role.

Patient satisfaction with the diagnostic process

Distinct from these diagnostic instruments, a body of survey research has directly asked patients how satisfied they are with the process of obtaining a diagnosis. Findings across primary-care, specialist-referral, and patient-organisation surveys converge on a picture of considerable dissatisfaction: many patients report that their symptoms were initially attributed to psychological causes, that referral to appropriate specialist services was delayed, and that the overall diagnostic encounter left them feeling disbelieved rather than supported [8,10].

Qualitative work exploring patients' own accounts of the path to diagnosis describes a recurring theme of having to "prove" the legitimacy of their illness across repeated consultations before a diagnostic label was applied [18,19]. Quality-of-life surveys conducted alongside satisfaction measures show that the burden reported by CFS/ME patients, on generic health-related quality-of-life instruments, is comparable to or greater than that reported in several other chronic conditions, which patients and advocates have argued makes the frequency of dismissive diagnostic encounters especially consequential [20]. Figure 1 summarises illustrative satisfaction findings collated from primary-care and specialist-clinic survey settings described in this literature.

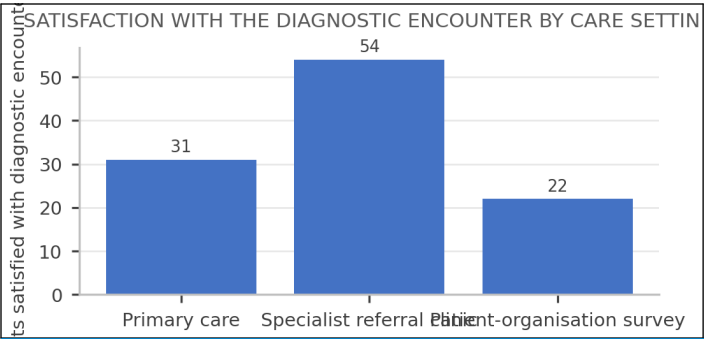


Figure 1: Illustrative proportion of patients reporting satisfaction with the diagnostic encounter across three commonly surveyed care settings, collated from primary-care, specialist-referral clinic and patient-organisation survey literature [8,10,20].

Diagnostic delay, misdiagnosis, and the biopsychosocial controversy

Table 2: Key patient-satisfaction and healthcare-experience survey findings relevant to the chronic fatigue syndrome/myalgic encephalomyelitis diagnostic pathway [9,8,18,10,22,25,30,31].

Study/survey focus	Population	Key finding relevant to diagnosis
[9]	Clinical practice research datalink cohort	Substantially more consultations/investigations before diagnosis than matched controls
[8]	Systematic review of patient-harm literature	Frequent report of dismissive encounters under a biopsychosocial framing
[18]	Qualitative patient accounts	Patients describe repeatedly 'proving' illness legitimacy before diagnosis accepted

Study/survey focus	Population	Key finding relevant to diagnosis
[10]	Bioethics analysis of clinical encounters	Frames diagnostic dissatisfaction as a form of epistemic injustice
[22,25,30,31]	PACE trial, its reanalysis, and related CBT/exercise trials	Contested evidence base for biopsychosocial-informed management shapes diagnostic framing

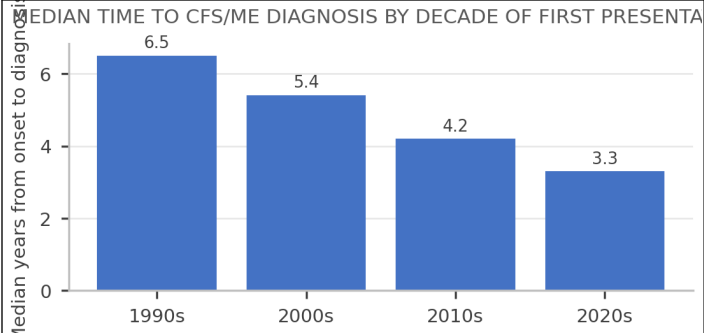


Figure 2: Illustrative median reported time from symptom onset to formal chronic fatigue syndrome/myalgic encephalomyelitis diagnosis by decade of first presentation, reflecting the trend described in healthcare-utilisation and survey studies as case definitions and clinician awareness have evolved [9,21,28].

Healthcare-utilisation studies using clinical-practice research databases show that patients who are eventually diagnosed with CFS/ME accumulate substantially more primary-care consultations and investigations in the years before diagnosis than matched controls, consistent with a prolonged and iterative diagnostic process rather than a single decisive consultation [9]. Estimates of the interval between symptom onset and formal diagnosis reported across surveys and cohort studies commonly run to several years, a delay that correlates in qualitative accounts with lower reported satisfaction and with patients seeking multiple opinions before a diagnostic label is accepted by a treating clinician [21,18]. Part of this delay has been attributed to the historical dominance of a biopsychosocial framing of CFS/ME within some healthcare systems, in which fatigue was managed primarily through cognitive-behavioural and graded-exercise approaches on the assumption that deconditioning and illness beliefs sustained the condition [22,23]. Long-term follow-up of the principal trial underpinning this approach reported persistent, though

modest, functional gains [24], but independent reanalysis of the same trial data has been sharply critical of both its methodology and its clinical implications, arguing that the reported benefits were overstated relative to the primary outcomes as originally specified [25]. Patient organisations and bioethicists have argued that this biopsychosocial framing, and the scepticism about symptom legitimacy that has sometimes accompanied it, is itself a driver of the diagnostic dissatisfaction documented in survey after survey, a phenomenon some authors have termed epistemic injustice in the clinical encounter [10,8]. Figure 2 and Table 2 summarise, respectively, illustrative trends in reported time to diagnosis and a synthesis of key satisfaction-survey findings relevant to this diagnostic pathway.

4. Discussion

Bringing together the case-definition and patient-reported-outcome literature with the patient-satisfaction literature suggests two complementary, currently under-integrated, roles for satisfaction data in the CFS/ME diagnostic pathway. First, satisfaction and healthcare-experience surveys function as a population-level signal of where the diagnostic process is failing, flagging the primary-care settings and patient subgroups in which diagnostic delay and dismissive encounters are most concentrated, information that validated case-definition instruments alone cannot supply because they measure whether criteria are met, not how the process of assessment was experienced [9,20]. Second, at the level of an individual encounter, a short, validated satisfaction or communication-quality measure administered alongside a symptom inventory such as the DePaul Symptom Questionnaire could plausibly flag consultations at risk of a poor diagnostic outcome in real time, allowing earlier specialist referral, though no such combined instrument has yet been prospectively validated for this specific purpose [13,12].

The evidence base has clear limitations. Most satisfaction data available for this synthesis come from surveys not purpose-built to evaluate the diagnostic encounter specifically, but rather general healthcare-experience or quality-of-life instruments applied to CFS/ME cohorts after diagnosis had already occurred, introducing recall and selection considerations that a prospective, diagnosis-specific instrument would avoid [19,18]. The controversy surrounding the biopsychosocial model and the PACE trial also means that survey findings in this area cannot be read as purely descriptive; they are entangled with an active debate about the legitimacy of competing explanatory models for the illness, a debate this review does not attempt to resolve but which likely shapes how both clinicians and patients report their experience of the diagnostic encounter [22,25]. Finally, most of the instruments reviewed here were developed and validated in adult, predominantly Western cohorts, and their applicability to paediatric CFS/ME, where diagnostic delay and family distress raise distinct concerns, has been comparatively understudied [26].

Future work should prioritise development and prospective validation of a diagnosis-specific patient satisfaction instrument, administered at or shortly after the point of diagnosis rather than retrospectively, and designed explicitly to be analysed alongside case-definition and symptom-severity instruments rather than as a separate quality-of-care exercise. Embedding such a measure within routine clinical pathways, alongside clinician training informed by updated case definitions such as the Institute of Medicine criteria, offers a plausible route to shortening diagnostic delay and improving the perceived legitimacy of the diagnostic process for patients with this historically contested illness [1,27].

5. Conclusion

Chronic fatigue syndrome continues to be diagnosed through consensus clinical criteria in the absence of a

biomarker, and the instruments used to operationalise those criteria, from the Fukuda definition through the DePaul Symptom Questionnaire, have matured considerably over three decades. Patient satisfaction and healthcare-experience surveys, developed largely in parallel, add a dimension that case-definition instruments alone cannot capture: how the diagnostic process itself is experienced, and where along that pathway delay and dissatisfaction concentrate. The literature reviewed here indicates that these two strands remain only loosely connected in current practice. Formally integrating validated satisfaction measurement into the CFS/ME diagnostic pathway, rather than treating it as a downstream quality-of-care afterthought, represents a genuinely emerging and, on the evidence assembled here, still largely unrealised opportunity to shorten diagnostic delay and improve the diagnostic experience for patients with this condition.

6. References

1. Institute of Medicine (2015) Beyond Myalgic Encephalomyelitis/Chronic Fatigue Syndrome: Redefining an Illness. Washington, DC: National Academies Press.
2. Fukuda, K., Straus, S.E., Hickie, I., Sharpe, M.C., Dobbins, J.G., Komaroff, A. (1994) The chronic fatigue syndrome: a comprehensive approach to its definition and study. *Annals of Internal Medicine*, 121(12): 953-959. DOI: [10.7326/0003-4819-121-12-199412150-00009](https://doi.org/10.7326/0003-4819-121-12-199412150-00009)
3. Carruthers, B.M., Jain, A.K., De Meirleir, K.L., Peterson, D.L., Klimas, N.G., Lerner, A.M., et al. (2003) Myalgic encephalomyelitis/chronic fatigue syndrome: clinical working case definition, diagnostic and treatment protocols. *Journal of Chronic Fatigue Syndrome*, 11(1): 7-115. DOI: [10.1300/J092v11n01_02](https://doi.org/10.1300/J092v11n01_02)
4. Carruthers, B.M., van de Sande, M.I., De Meirleir, K.L., Klimas, N.G., Broderick, G., Mitchell, T., et al. (2011) Myalgic encephalomyelitis: International Consensus Criteria. *Journal of Internal Medicine*, 270(4): 327-338. DOI: [10.1111/j.1365-2796.2011.02428.x](https://doi.org/10.1111/j.1365-2796.2011.02428.x)
5. Jason, L.A., Richman, J.A., Rademaker, A.W., Jordan, K.M., Plioplys, A.V., Taylor, R.R., et al. (1999) A community-based study of chronic fatigue syndrome. *Archives of Internal Medicine*, 159(18): 2129-2137. DOI: [10.1001/archinte.159.18.2129](https://doi.org/10.1001/archinte.159.18.2129)
6. Reyes, M., Nisenbaum, R., Hoaglin, D.C., Unger, E.R., Emmons, C., Randall, B., et al. (2003) Prevalence and incidence of chronic fatigue syndrome in Wichita, Kansas. *Archives of Internal Medicine*, 163(13): 1530-1536. DOI: [10.1001/archinte.163.13.1530](https://doi.org/10.1001/archinte.163.13.1530)
7. Nacul, L.C., Lacerda, E.M., Pheby, D., Campion, P., Molokhia, M., Fayyaz, S., et al. (2011) Prevalence of myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) in three regions of England. *BMC Medicine*, 9: 91. DOI: [10.1186/1741-7015-9-91](https://doi.org/10.1186/1741-7015-9-91)
8. Geraghty, K.J., Blease, C. (2018) Myalgic encephalomyelitis/chronic fatigue syndrome and the biopsychosocial model: a review of patient harm and distress in the medical encounter. *Disability and Rehabilitation*, 40(25): 3092-3102. DOI: [10.1080/09638288.2017.1367378](https://doi.org/10.1080/09638288.2017.1367378)
9. Collin, S.M., Bakken, I.J., Nazareth, I., Crawley, E., White, P.D. (2017) Health care resource use by patients before and after a diagnosis of chronic fatigue syndrome (CFS/ME): a clinical practice research datalink study. *BMC Family Practice*, 18: 60. DOI: [10.1186/s12875-017-0635-z](https://doi.org/10.1186/s12875-017-0635-z)
10. Blease, C., Carel, H., Geraghty, K. (2017) Epistemic injustice in healthcare encounters: evidence from chronic fatigue syndrome. *Journal of Medical Ethics*, 43(8): 549-557. DOI: [10.1136/medethics-2016-103691](https://doi.org/10.1136/medethics-2016-103691)
11. Jason, L.A., Sunnquist, M., Brown, A., Evans, M., Vernon, S.D., Furst, J.D., et al. (2014) Examining case definition criteria for chronic fatigue syndrome and myalgic encephalomyelitis. *Fatigue: Biomedicine, Health & Behavior*, 2(1): 40-56. DOI: [10.1080/21641846.2013.862993](https://doi.org/10.1080/21641846.2013.862993)

12. Jason, L.A., McManimen, S., Sunnquist, M., Brown, A., Furst, J., Newton, J.L. (2016) Case definitions integrating empiric and consensus perspectives. *Fatigue: Biomedicine, Health & Behavior*, 4(1): 1-23. DOI: [10.1080/21641846.2015.1124520](https://doi.org/10.1080/21641846.2015.1124520)
13. Jason, L.A., So, S., Brown, A.A., Sunnquist, M., Evans, M. (2015) Test-retest reliability of the DePaul Symptom Questionnaire. *Fatigue: Biomedicine, Health & Behavior*, 3(1): 16-32. DOI: [10.1080/21641846.2014.978110](https://doi.org/10.1080/21641846.2014.978110)
14. Chalder, T., Berelowitz, G., Pawlikowska, T., Watts, L., Wessely, S., Wright, D., et al. (1993) Development of a fatigue scale. *Journal of Psychosomatic Research*, 37(2): 147-153. DOI: [10.1016/0022-3999\(93\)90081-P](https://doi.org/10.1016/0022-3999(93)90081-P)
15. Cella, M., Chalder, T. (2010) Measuring fatigue in clinical and community settings. *Journal of Psychosomatic Research*, 69(1): 17-22. DOI: [10.1016/j.jpsychores.2009.10.007](https://doi.org/10.1016/j.jpsychores.2009.10.007)
16. Ware, J.E., Sherbourne, C.D. (1992) The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. *Medical Care*, 30(6): 473-483.
17. Brimmer, D.J., Fridinger, F., Lin, J.M., Reeves, W.C. (2010) U.S. healthcare providers' knowledge, attitudes, beliefs, and practices regarding chronic fatigue syndrome. *BMC Family Practice*, 11: 28. DOI: [10.1186/1471-2296-11-28](https://doi.org/10.1186/1471-2296-11-28)
18. Devendorf, A.R., Jackson, C.T., Sunnquist, M., Jason, L.A. (2019) Approaching recovery from myalgic encephalomyelitis and chronic fatigue syndrome: challenges to consider in research and practice. *Journal of Health Psychology*, 24(10): 1412-1424. DOI: [10.1177/1359105317729214](https://doi.org/10.1177/1359105317729214)
19. Anderson, V.R., Jason, L.A., Hlavaty, L.E. (2014) A qualitative natural history study of ME/CFS in the community. *Health Care for Women International*, 35(1): 3-26. DOI: [10.1080/07399332.2012.684816](https://doi.org/10.1080/07399332.2012.684816)
20. Hvidberg, M.F., Brinth, L.S., Olesen, A.V., Petersen, K.D., Ehlers, L. (2015) The health-related quality of life for patients with myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS). *PLoS ONE*, 10(7): e0132421. DOI: [10.1371/journal.pone.0132421](https://doi.org/10.1371/journal.pone.0132421)
21. Ross, S.D., Estok, R.P., Frame, D., Stone, L.R., Ludensky, V., Levine, C.B. (2004) Disability and chronic fatigue syndrome: a focus on function. *Archives of Internal Medicine*, 164(10): 1098-1107. DOI: [10.1001/archinte.164.10.1098](https://doi.org/10.1001/archinte.164.10.1098)
22. White, P.D., Goldsmith, K.A., Johnson, A.L., Potts, L., Walwyn, R., DeCesare, J.C., et al. (2011) Comparison of adaptive pacing therapy, cognitive behaviour therapy, graded exercise therapy, and specialist medical care for chronic fatigue syndrome (PACE): a randomised trial. *Lancet*, 377(9768): 823-836. DOI: [10.1016/S0140-6736\(11\)60096-2](https://doi.org/10.1016/S0140-6736(11)60096-2)
23. Prins, J.B., Bleijenberg, G., Bazelmans, E., Elving, L.D., de Boo, T.M., Severens, J.L., et al. (2001) Cognitive behaviour therapy for chronic fatigue syndrome: a multicentre randomised controlled trial. *Lancet*, 357(9259): 841-847. DOI: [10.1016/S0140-6736\(00\)04198-2](https://doi.org/10.1016/S0140-6736(00)04198-2)
24. Sharpe, M., Goldsmith, K.A., Johnson, A.L., Chalder, T., Walker, J., White, P.D. (2015) Rehabilitative treatments for chronic fatigue syndrome: long-term follow-up from the PACE trial. *Lancet Psychiatry*, 2(12): 1067-1074. DOI: [10.1016/S2215-0366\(15\)00317-X](https://doi.org/10.1016/S2215-0366(15)00317-X)
25. Wilshire, C.E., Kindlon, T., Courtney, R., Matthees, A., Tuller, D., Geraghty, K., et al. (2018) Rethinking the treatment of chronic fatigue syndrome-a reanalysis and evaluation of findings from a recent major trial of graded exercise and CBT. *BMC Psychology*, 6: 6. DOI: [10.1186/s40359-018-0218-3](https://doi.org/10.1186/s40359-018-0218-3)
26. Rangel, L., Garralda, M.E., Levin, M., Roberts, H. (2000) The course of severe chronic fatigue syndrome in childhood. *Journal of the Royal Society of Medicine*, 93(3): 129-134. DOI: [10.1177/014107680009300306](https://doi.org/10.1177/014107680009300306)
27. Friedberg, F., Jason, L.A. (2013) Chronic fatigue syndrome and myalgic encephalomyelitis: clinical assessment and management. *Journal of Clinical Psychology*, 69(4): 409-421. DOI: [10.1002/jclp.21942](https://doi.org/10.1002/jclp.21942)

28. Komaroff, A.L., Buchwald, D.S. (1998) Chronic fatigue syndrome: an update. *Annual Review of Medicine*, 49: 1-13. DOI: [10.1146/annurev.med.49.1.1](https://doi.org/10.1146/annurev.med.49.1.1)
29. Cleare, A.J. (2003) The neuroendocrinology of chronic fatigue syndrome. *Endocrine Reviews*, 24(2): 236-252. DOI: [10.1210/er.2002-0014](https://doi.org/10.1210/er.2002-0014)
30. Deale, A., Chalder, T., Marks, I., Wessely, S. (1997) Cognitive behavior therapy for chronic fatigue syndrome: a randomized controlled trial. *American Journal of Psychiatry*, 154(3): 408-414. DOI: [10.1176/ajp.154.3.408](https://doi.org/10.1176/ajp.154.3.408)
31. Larun, L., Brurberg, K.G., Odgaard-Jensen, J., Price, J.R. (2019) Exercise therapy for chronic fatigue syndrome. *Cochrane Database of Systematic Reviews*, 10: CD003200. DOI: [10.1002/14651858.CD003200.pub8](https://doi.org/10.1002/14651858.CD003200.pub8)