



Sensitivity and Specificity of the CDC Empirical Chronic Fatigue Syndrome Case Definition

PDF (Size:139KB) PP. 9-16 DOI: 10.4236/psych.2010.11002

Author(s)

Leonard A. Jason, Meredith Evans, Abigail Brown, Molly Brown, Nicole Porter, Jessica Hunnell, Valerie Anderson, Athena Lerch

ABSTRACT

In an effort to bring more standardization to the chronic fatigue syndrome (CFS) Fukuda et al. case definition [1], the Centers for Disease Control and Prevention (CDC) has developed an empirical case definition [2] that specifies criteria and instruments to diagnose CFS. The present study investigated the sensitivity and specificity of this CFS empirical case definition with diagnosed individuals with CFS from a community based study that were compared to non-CFS cases. All participants completed questionnaires measuring disability (Medical Outcome Survey Short-Form-36) [3], fatigue (the Multidimensional Fatigue Inventory) [4], and symptoms (CDC Symptom Inventory) [5]. Findings of the present study indicated sensitivity and specificity problems with the CDC empirical CFS case definition.

KEYWORDS

Chronic Fatigue Syndrome, Empirical Case Definition, Centers for Disease Control and Prevention, Fukuda Criteria

Cite this paper

Jason, L. , Evans, M. , Brown, A. , Brown, M. , Porter, N. , Hunnell, J. , Anderson, V. & Lerch, A. (2010). Sensitivity and Specificity of the CDC Empirical Chronic Fatigue Syndrome Case Definition. *Psychology*, 1, 9-16. doi: 10.4236/psych.2010.11002.

References

- [1] K. Fukuda, S. E. Straus, I. Hickie, M. C. Sharpe, J. G. Donnibis and A. Komaroff, "The Chronic Fatigue Syndrome: A Comprehensive Approach to Its Definition and Study," *Annals of Internal Medicine*, Vol. 121, 1994, pp. 953-958.
- [2] W. C. Reeves, D. Wagner, R. Nisenbaum, J. F. Jones, B. Gurbaxani, L. Solomon, et al., "Chronic Fatigue Syndrome—A Clinically Empirical Approach to Its Definition and Study," *BMC Medicine*, Vol. 3, 2005. <http://www.biomedcentral.com/1741-7015/3/19>
- [3] J. E. Ware, K. K. Snow and M. Kosinski, "SF-36 Health Survey: Manual and Interpretation Guide," Quality Metric Incorporated, 2000.
- [4] E. M. Smets, B. J. Garssen, B. Bonke and J. C. DeHaes, "The Multidimensional Fatigue Inventory (MFI): Psychometric Properties of an Instrument to Assess Fatigue," *Journal of Psychosomatic Research*, Vol. 39, 1995, pp. 315-325.
- [5] D. Wagner, R. Nisenbaum, C. Heim, J. F. Jones, E. R. Unger and W. C. Reeves, "Psychometric Properties of the CDC Symptom Inventory for Assessment of Chronic Fatigue Syndrome," *Population Health Metrics*, Vol. 3, 2005. <http://www.pophealthmetrics.com/content/3/1/8>
- [6] L. A. Tiersky, R. J. Matheis, J. DeLuca, G. Lange and B. H. Natelson, "Functional Status, Neuropsychological Functioning, and Mood in Chronic Fatigue Syndrome," *Journal of Nervous and Mental Disease*, Vol. 191, 2003, pp. 324-331.
- [7] L. A. Jason, N. Najar, N. Porter and C. Reh, "Evaluating the Centers for Disease Control's Empirical

• Open Special Issues

• Published Special Issues

• Special Issues Guideline

PSYCH Subscription

Most popular papers in PSYCH

About PSYCH News

Frequently Asked Questions

Recommend to Peers

Recommend to Library

Contact Us

Downloads: 247,361

Visits: 543,583

Sponsors >>

- [8] L. A. Jason, M. Evans, M. Brown, N. Porter, A. Brown, J. Hunnell, et al., "Fatigue Scales and Chronic Fatigue Syndrome: Issues of Sensitivity and Specificity," Manuscript Submitted for Publication, 2010.
- [9] W. C. Reeves, B. M. Gurbaxani, J. S. Lin and E. R. Unger, "A Response to Jason et al., 'Evaluating the Centers for Disease Control's Empirical Chronic Fatigue Syndrome Case Definition,'" Journal of Disability Policy Studies Online First, 2009. <http://dps.sagepub.com/cgi/rapidpdf/1044207309346310v1.pdf>
- [10] C. Hawk, L. A. Jason and S. Torres-Harding, "Differential Diagnosis of Chronic Fatigue Syndrome and Major Depressive Disorder," International Journal of Behavioral Medicine, Vol. 13, 2006, pp. 244-251.
- [11] L. A. Jason, M. Brown, M. Evans, V. Anderson, A. Lerch, A. Brown, et al., "Measuring Substantial Reduction in Functioning with CFS," Manuscript Submitted for Publication, 2010.
- [12] L. A. Jason, K. M. Jordan, J. A. Richman, A. W. Rademaker, C. Huang, W. McCready, et al., "A Community-Based Study of Prolonged and Chronic Fatigue," Journal of Health Psychology, Vol. 4, 1999, pp. 9-26.
- [13] L. Kish, "Survey Sampling," John Wiley and Sons, Incorporated, 1965.
- [14] L. A. Jason, M. T. Ropacki, N. B. Santoro, J. A. Richman, W. Heatherly, R. Taylor, et al., "A Screening Instrument for Chronic Fatigue Syndrome: Reliability and Validity," Journal of Chronic Fatigue Syndrome, Vol. 3, No. 1, 1997, pp. 39-59.
- [15] R. L. Spitzer, J. B. W. Williams, M. Gibbon and M. B. First, "Structured Clinical Interview for DSM-IV-Non-Patient Edition (SCID-NP, Version 2.0)," American Psychiatric Press, 1995.
- [16] "Diagnostic and Statistical Manual of Mental Disorders," Fourth Edition, American Psychiatric Association, 1994.
- [17] M. B. First, R. L. Spitzer, M. Gibbon and J. B. W. Williams, "Structured Clinical Interview for DSM-IV Axis I Disorders-Patient Edition," Biometrics Research Department, 1995.
- [18] R. R. Taylor and L. A. Jason, "Comparing the DIS with the SCID: Chronic Fatigue Syndrome and Psychiatric Comorbidity," Psychology and Health: The International Review of Health Psychology, Vol. 13, 1998, pp. 1087-1104.
- [19] A. L. Komaroff and D. S. Buchwald, "Symptoms and Signs of Chronic Fatigue Syndrome," Reviews of Infectious Diseases, Vol. 13, 1991, pp. 8-11.
- [20] A. L. Komaroff, L. R. Fagioli, A. M. Geiger, T. H. Doolittle, J. Lee, R. J. Kornish, et al., "An Examination of the Working Case Definition of Chronic Fatigue Syndrome," The American Journal of Medicine, Vol. 100, 1996, pp. 56-64.
- [21] D. Buchwald, R. Pascualy, C. Bombardier and P. Kith, "Sleep Disorders in Patients with Chronic Fatigue," Clinical Infectious Diseases, Vol. 18, 1994, pp. S68-S72.
- [22] A. L. Stewart, S. Greenfield, R. D. Hayes, K. Wells, W. H. Rogers, S. D. Berry, et al., "Functional Status and Well-Being of Patients with Chronic Conditions: Results from the Medical Outcomes Study," Journal of the American Medical Association, Vol. 262, No. 7, 1989, pp. 907-913.
- [23] P. Goodnick and R. Sandoval, "Treatment of Chronic Fatigue Syndrome and Related Disorders: Immunological Approaches," In P. Goodnick and N. Klimas Eds., Chronic Fatigue and Related Immune Deficiency Syndromes, American Psychiatric Press, 1993, pp. 131-161.
- [24] L. A. Jason, N. Porter, J. Hunnell, A. Rademaker and J. Richman, "CFS Prevalence and Risk Factors Over Time," Manuscript Submitted for Publication, 2010.
- [25] W. C. Reeves, A. Lloyd, S. D. Vernon, N. Klimas, L. A. Jason, G. Bleijenberg, et al., "Identification of Ambiguities in the 1994 Chronic Fatigue Syndrome Research Case Definition and Recommendations for Resolution," BMC Health Services Research, Vol. 3, 2003. <http://www.biomedcentral.com/content/pdf/1472-6963-3-25.pdf>
- [26] J. A. Hanley and B. J. McNeil, "The Meaning and Use of the Area under a Receiver Operating Characteristics (ROC) Curve," Radiology, Vol. 143, 1982, pp. 29-36.

- [27] K. H. Zou, A. J. O' Malley and L. Mauri, " Receiver-Operating Characteristic Analysis for Evaluating Diagnostic Tests and Predictive Models," Circulation, Vol. 115, 2007, pp. 654-657.
- [28] M. H. Zweig and G. Campbell, " Receiver-Operating Characteristic (ROC) Plots: A Fundamental Evaluation Tool in Clinical Medicine," Clinical Chemistry, Vol. 39, 1993, pp. 561-577.
- [29] W. C. Reeves, J. J. Jones, E. Maloney, C. Heim, D. C. Hoaglin, R. Boneva, et al., " New Study on the Prevalence of CFS in Metro, Urban and Rural Georgia Populations," Population Health Metrics, Vol. 5, 2007. <http://www.pophealthmetrics.com/content/5/1/5>
- [30] M. Reyes, R. Nisenbaum, D. C. Hoaglin, E. R. Unger, C. Emmons, B. Randall, et al., " Prevalence and Incidence of Chronic Fatigue Syndrome in Wichita, Kansas," Archives of Internal Medicine, Vol. 163,