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Short report

Long-term sickness absence among patients with chronic fatigue syndrome

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Summary

Chronic fatigue syndrome is associated with high levels of occupational disability. Consecutive out-patients at a chronic fatigue syndrome treatment service were studied for associations between occupational status, symptom severity and cognitive and behavioural responses to symptoms. All patients had high symptom levels; however, those on long-term sickness absence had significantly more physical fatigue ($\beta = 0.098$, $P < 0.05$) and worse sleep ($\beta = 0.075$, $P < 0.05$). Patients with long-term sickness absence also demonstrated more embarrassment avoidance cognitions ($\beta = 0.086$, $P < 0.05$) and avoidance resting behavioural responses ($\beta = 0.078$, $P < 0.05$). Identifying and addressing avoidance behaviours and cognitions regarding embarrassment in interventions may enhance the chances of individuals returning to work.

Declaration of interest

T.C. is an author of self-help books on chronic fatigue.

The level of disability associated with chronic fatigue syndrome (CFS) is often high and the prognosis and occupational outcomes are poor.[1] Poor occupational outcomes are seen in many chronic disorders, although the associations between disease severity and work-related function are often weak. Although previous research has suggested an association between the level of physical functioning and risk of long-term sickness absence among fatigued employees,[2] other factors including illness beliefs, sleep disturbance, comorbid psychiatric symptoms and attributional style may also be important.[1,3–5]

The aim of this study was to examine clinical factors associated with long-term sickness absence in patients with CFS. We hypothesised that both symptom severity and cognitive and behavioural responses would be associated with poor occupational outcome.

Method

Consecutive patients entering an out-patient treatment unit for CFS were recruited for this study. All patients were diagnosed with CFS according to the Oxford criteria[6] following detailed clinical examination and investigations. The information used in this study was collected prior to any intervention.

Patients self-reported their current work status. Those describing themselves as in full-time, part-time or in casual work, or as students, were classified as 'at work'. Those on sick leave for longer than 3 months or permanently sick or disabled were classified as 'long-term sickness absence'.

Patients were asked about the number of symptoms they were experiencing from a list of nine commonly reported by patients with CFS (muscle pain, joint pain, tender neck/armpit glands, un-refreshing sleep, poor memory, headaches, sore throat, malaise for 24 hours or more after exertion, and poor concentration). The number of psychiatric symptoms was assessed by the Revised Clinical Interview Schedule (CISR).[7] As fatigue and psychiatric disorder commonly co-occur,[8] fatigue symptoms in the CISR were omitted. The level of fatigue was measured by the Chalder Fatigue Scale.[9] This measures physical and mental fatigue producing a total score between 0 and 11. The Jenkins Sleep Scale was used to assess sleep problems. The responses are given on a six-point frequency scale (0–5), giving a total score from 0 to 20.[10]

The Cognitive and Behavioural Responses Questionnaire (CBRQ) is a new scale designed to assess patients' cognitive and behavioural responses to symptoms.[11] It has been validated on 230 patients with CFS (further details available from T.C. on request) and has been used in patients with multiple sclerosis.[11] Previous factor analysis of Likert-scored data revealed five cognitive subscales and two behavioural subscales. Of the cognitive subscales, one measures the level of symptom focusing, and four assess how patients interpret their symptoms (catastrophising, damage beliefs, fear avoidance and embarrassment avoidance). The two behavioural response subscales measure all-or-nothing behaviour, and avoidance/resting behaviour. Descriptions of the subscales with examples of questions asked are provided in online Appendix DS1. The internal reliability of the scales on the current sample was high, with Chronbach's alpha ranging from 0.70 to 0.88.

SPSS version 15.0 for Windows was used for the statistical analyses. Differences between those included and excluded from analysis were tested for using Student's *t*-tests and chi-squared tests. The associations between each measure of symptom severity, cognitive and behavioral responses and long-term sickness absence were initially examined using linear regression. Standardised coefficients were calculated with age, gender and education considered as possible confounders. Finally, those factors identified as being associated with long-term sickness absence on individual testing were then entered into a backwards stepwise regression model.

Results

Data were available for 257 consecutive out-patients meeting diagnostic criteria for CFS. Individuals with missing information ($n = 48$) and those who reported being unemployed, retired or looking after the home ($n = 41$) were excluded from the analysis. The sample mean age was 38.4 years (range 18–61), and more than two-thirds (68.6%) were female. Over half (51.7%) had university education. There were significantly more women among the excluded individuals, who were also older and had lower attained education level ($P < 0.01$ for all variables). There was no significant difference between those included and those excluded in terms of number of symptoms ($P = 0.20$) and level of fatigue ($P = 0.85$). Scores on the cognitive and behavioural subscales were normally distributed.

Seventy-one (42.3%) of the patients reported long-term sickness absence. Both working patients and those on long-term sickness absence had high levels of symptom severity (Table 1 shows key results; for complete results see online Table DS1).

*These authors contributed equally to the work.

Table 1 Mean score (standard deviation) for symptom severity and cognitive and behavioural responses to symptoms among workers ($n=97$) *v.* individuals on long-term sick leave ($n=71$)

Variable	n[a]	Workers, mean (s.d.)	Long-term sick leave, mean (s.d.)
Symptom severity			
CISR symptom score[b]	119	12.99 (7.62)	13.04 (9.94)
Chalder Fatigue Scale Physical	161	5.80 (1.87)	6.32 (1.64)*
Jenkins Sleep Scale	163	10.65 (4.93)	12.58 (4.81)*
Cognitive and behavioural responses			
Fear avoidance	159	13.46 (4.02)	14.68 (3.42)†
Embarrassment avoidance	162	11.12 (5.38)	12.94 (5.07)*
Avoidance resting behaviour	161	12.23 (4.63)	14.32 (5.90)*

†$P=0.051$; *$P<0.05$, adjusted for age, gender and education.
CISR, Revised Clinical Interview Schedule.
a. Total with valid responses on scale. Individuals with missing responses on scale items excluded from the analysis.
b. Total score CISR symptoms without fatigue.

However, only physical fatigue and sleep were significantly worse among the patients with long-term sickness absence ($\beta=0.098$, $P<0.05$ and $\beta=0.075$, $P<0.05$ respectively). For cognitive and behavioural responses, patients reporting long-term sickness absence had significantly higher mean scores on the subscales embarrassment avoidance ($\beta=0.086$, $P<0.05$) and avoidance resting behaviour ($\beta=0.078$, $P<0.05$), and borderline significant higher levels of fear avoidance ($\beta=0.078$, $P=0.05$). The subanalysis using backwards stepwise regression produced a final model containing four elements; fear avoidance ($P=0.03$), embarrassment avoidance ($P=0.05$), physical fatigue ($P=0.09$) and age ($P<0.001$).

Discussion

Long-term sickness absence among patients with CFS was associated with physical fatigue, poor sleep, and cognitive and behavioural responses characterised by embarrassment over symptoms and avoidant behaviour.

The strengths of this study include its clinical setting, diagnostic procedures and the large amount of detailed information collected about each patient. The small sample size, multiple comparisons and the use of stepwise regression raises the risk of findings occurring by chance (type 1 error). In order to reduce this risk we carried out the minimum number of statistical tests required to examine our *a priori* hypotheses. As we were only able to look at cross-sectional associations, we cannot comment on cause and effect. The use of data from a specialised CFS clinic and the use of a new scale may limit the generalisability of our results.

To our knowledge, this is the first study to examine the associations between specific cognitive and behavioural responses and long-term sickness absence in patients with CFS. Our findings are in accordance with previous studies suggesting that factors other than symptom severity are important in predicting prognosis in CFS.[3] Similar findings have occurred when the role of cognitive and emotional factors have been considered in musculoskeletal and cardiovascular disorders,[12–14] with passive–reactive coping strategies, such as avoidance, appearing to be of particular importance in predicting occupational outcomes.[15] We suggest that cognitive and behavioral responses have a role in predicting functional outcomes of any chronic illness, although the contested nature of CFS may increase their importance. This may accentuate any embarrassment over symptoms or fears that symptoms may get out of control. Such reactions, when combined with a tendency towards avoidant responses may contribute to an increasing spiral of avoidance of all social situations including work.

To date there is little evidence on the effectiveness of interventions to prevent long-term sickness absence and facilitate return to work in patients with CFS. The results of this study suggest that identifying and addressing avoidance behaviours and cognitions regarding embarrassment in interventions for CFS may enhance the chances of individuals returning to work.

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EXTRA CONTENT ONLINE

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