Claims Management of Fatigue Through the Looking Glass

by Dr. Chris J. Ball, Gen Re, London

Lewis Carroll’s Alice’s Adventures in Wonderland has proved fertile ground for extravagant speculation not only by psychiatrists but other disciplines, too.1 Respiratory physicians Whitelaw and Black suggest the Dormouse at the Mad Hatter’s Tea Party represents an early report of obstructive sleep apnoea, “You might just as well say…that ‘I breathe when I sleep’ is the same thing as ‘I sleep when I breathe’” says the Dormouse (“which seemed to be talking in its sleep”).2

The doctors’ rather fanciful interpretation of the Dormouse’s predicament illustrates the difficulty of identifying the cause of fatigue, let alone managing its impact in the context of a disability claim.

Today we still don’t have a broadly accepted definition of fatigue. One obstacle is the inconsistent language used in scientific literature, making it hard to compare studies. For example, while it is reassuring that “fatigue” among airline pilots has been extensively investigated, it may be that the studies explored tiredness or sleepiness, not fatigue per se. Most literature on fatigue in medical conditions agree that fatigue is composed of emotional, cognitive or physical tiredness that is out of proportion to expended effort, is not relieved by rest and is sufficient to interfere with the person’s usual functional capacity.

Dantzer et al. (2014) describe these different dimensions as “I cannot do it; I am exhausted” versus “I do not feel like doing it; it is not worth it”.3 Those authors argue that the first dimension is “relatively easy to characterise” and accompanied by physical signs, whilst the second, so-called “Central fatigue”, is more difficult to assess. Chaudhuri and Behan (2000), in fact, defined central fatigue as “the failure to initiate and/or sustain attentional tasks and physical activities requiring self-motivation”.4 It is this central fatigue that is of most interest to insurers.

Fatigue prevalence

In working populations, fatigue is reported as affecting 22% to 37.9% of people, resulting in significant loss of productive time.5, 6 In primary care, 18% reported prolonged fatigue, some of whom self-diagnosed Chronic Fatigue Syndrome (CFS) (1.4%).7 There is wide variability in the proportion of fatigued people who ascribe their symptoms to CSF (pooled prevalence for self-reporting assessment 3.28% (95% CI: 2.24—4.33)) in the population at large. Clinical assessment is more consistent with a rate of 0.76% (95% CI: 0.23—1.29).8
Across a wider range of physical illnesses, the importance to the patient of fatigue has often been neglected, perhaps most obviously in cancer. The situation is changing with new guidelines to recognize and manage fatigue in these patients. Fatigue is a frequent symptom (at least 70% during active treatment) and a persistent symptom (30% in post treatment survivors), despite achieving complete remission. Patients report fatigue associated with cancer and its treatment as the most distressing symptom; more than pain or vomiting, which can be usually be managed with medication.9, 10

The same is true in Multiple Sclerosis (MS) where patients report similar levels of fatigue to those experiencing cancer.11 Fatigue is common in patients with Parkinson’s disease (33%),12 and infectious diseases such as HIV (65%),13 whilst in stroke the reports are highly variable, depending on the size, location and methods of reporting fatigue (29% to 77%).14 This leaves aside all the associations between fatigue and mental health problems.

Causes of fatigue
The causes of fatigue can be complex and multifactorial, related not only to the medical diagnosis but also the treatment and interactions with psychological and social factors. In cancer it can be particularly difficult to untangle the various strands (see Table 1).

Research in physical disorders associated with fatigue has focused on understanding how inflammation affects neurotransmitters and the neural networks within which they function. Many studies demonstrate an association between the fatigue and biomarkers of inflammation (particularly cytokines) in a variety of physical diseases. Unfortunately, despite the greater understanding of these mechanisms no single effective treatment for fatigue has yet been identified.16

Fatigue measurement
The failure to develop a treatment is a problem but measuring the different elements of fatigue is a particular challenge. A large number of scales have been developed to try and measure the subjective experience of fatigue. The most simple are visual analogue scales with the end points labelled (no fatigue – fatigued). Whilst these are meaningful to a given individual and sensitive to change, no points are defined on the scale and comparison between them is difficult.17

Short and long multi-dimensional scales have also been developed. Whitehead (2009) concludes that while none is ideal, three short instruments (Fatigue Severity Scale [FSS], Fatigue Impact Scale [FIS], and Brief Fatigue Inventory [BFI]) and three comprehensive instruments (Fatigue Symptom Inventory [FSI], Multidimensional Assessment of Fatigue [MAF], and Multidimensional Fatigue Symptom Inventory [MFSI]) demonstrated good psychometric properties.18

A third approach has been to extract the fatigue questions from more general quality of life scales, but this is perhaps overly complex in the context of anything other than academia.19

It could be argued that in disability claims it is much more important to measure limitations in activity and participation restrictions than it is to worry too much about how people are feeling. Again, a large number of instruments have been identified but only the CFS-activities and participation questionnaire (CSF-APQ) appeared to have robust psychometric properties.20

The search continues for the best way to measure fatigue in an objective fashion. Lessons may be taken from the mass transport industry where the consequences of unrecognized fatigue are catastrophic. Monitoring pilots and other workers in this field is vital not only when they are on duty but to ensure they are fit for duty when they turn up for work. Activity monitors can give an indication as to when people are asleep, (potentially) the quality of that sleep and how active they are between sleeps.21 These devices are relatively unobtrusive, acceptable (even fashionable) if not cheap. They may pick up unintentional sleeping on a flight deck but are not directly measuring sleep. Activity patterns can offer claims assessors clues to how well a claimant might be progressing based on their daily activity levels.

Psychomotor vigilance tasks require sustained attention over 5 to 10 minutes of recording reaction time and missed responses, e.g. The Psychomotor Vigilance Test.22 Progress on this task could represent an improvement in cognitive fatigue.

Table 1: Causes of fatigue in cancer15

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<tr>
<th>The cancer</th>
<th>■ Involvement of the bone marrow leading to anaemia</th>
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<tr>
<td>■ Production of cytokines and other toxins</td>
<td></td>
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<tr>
<td>■ Lung involvement leading to shortness of breath</td>
<td></td>
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<tr>
<td>Other health problems</td>
<td>■ Cardiac failure, diabetes, anxiety, depression, infections</td>
</tr>
<tr>
<td>Side effects of treatment</td>
<td>■ Chemo and radiotherapy (especially if to the brain)</td>
</tr>
<tr>
<td>■ Hormone blockers (e.g. in breast and prostate cancer)</td>
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<tr>
<td>Side effects of other drugs</td>
<td>■ Pain killers, anti-emetics, antidepressants, sleeping tablets, steroids</td>
</tr>
<tr>
<td>Others</td>
<td>■ Problems eating and swallowing</td>
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<tr>
<td>■ Pain</td>
<td></td>
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<tr>
<td>■ Deconditioning</td>
<td></td>
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<tr>
<td>■ Poor sleep</td>
<td></td>
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<td>■ Multiple hospital visits causing exhaustion from travelling</td>
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Blood biomarkers, such as Interleukin 6 or the CD26 receptor on immune cells, have been used as markers for fatigue but have all the drawbacks involved with invasive testing, the need for specialist evaluation and interpretation. CFS the immunological findings have been too inconsistent to be of value. Measuring inflammatory cytokines is promising as several studies suggest that an elevated TH2/TH1 profile might reflect disease activity in patients with CFS. Given the heterogeneity of CFS, biomarkers may ultimately be utilized to identify specific subsets of patients for whom specific treatments will be effective. Cytokine measurement may be useful more generally in cancer identifying patients at risk of fatigue.

Saliva has become increasingly used in stress research as it is a non-invasive to collect and samples degrade slowly, but the large degree of inter-individual variation and changes through the day have led to severe limitations in use. The development of the Fatigue Biomarker Index, measuring the changes in the concentration of salivary peptides has been proposed to improve the reliability of sampling. There is potential for a marker of this kind in sleep medicine; however, objective measures can only be carried out by expensive, time consuming tests, such as polysomnography, electroencephalography (EEG) or Multiple Sleep Latency.

**Fatigue management in disability claims**

Managing persistent fatigue can be difficult. Restoring thyroid hormone levels or correcting anaemia are simple but life changing interventions, when this is possible. In chronic medical conditions, the situation is much more complex and relies heavily on the relationship between the patient and the professionals responsible for their care, the health beliefs of the patients themselves and their social circumstances.

Whilst the details will likely vary by underlying cause, a number of best practice principles emerge (see Table 2). Drawn from collaborative care models, an approach that puts the individual at the centre of the process has been shown to deliver significant improvements over traditional models of medical care.28, 29

<table>
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<th>Biological</th>
<th>Genetic makeup, family history, infections, trauma, nutrition, substance use, medication</th>
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<td>Psychological</td>
<td>Beliefs, attitudes, emotional responses, perceptions and behaviour of an individual that influence functioning</td>
</tr>
<tr>
<td>Social</td>
<td>The social context (work, family, economic) that puts pressures and constraints on functioning</td>
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In order to realize these principles in day-to-day practice, the relationship between the claimant and the insurer must understand a wide range of issues. These are encapsulated in the biopsychosocial model (see Table 3). The model recognises not only the “medical” issues but the psychological and social milieu that contribute to the disability in any given individual.

**Table 2: Elements of a person-centred approach to claim management**

- Affording people dignity, compassion and respect
- Offering coordinated care, support or treatment
- Offering personalised care, support or treatment
- Supporting people to recognize and develop their own strengths and abilities
- Enabling an independent fulfilling life

**Table 3: Elements of the biopsychosocial model**

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steer the process in a positive manner, bringing the client with them. The person-centred approach that developed as part of the collaborative care model for chronic conditions provides just such a model. It might well be that Alice in Wonderland’s Dormouse could develop a much improved quality of life – although there is much to be said for “living in a teapot” (as the story goes) – given the opportunity to undergo person-centred management of his condition.

Endnotes

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