Fatigue Assessment

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Assessment – Simples?

• “No single measure of fatigue adequately captures the complexity of the phenomenon” (Aaronson, et al 1999, p. 47)
• Fatigue difficult to define and measure (Taylor, et al, 2000; Chalder, et al, 1993)
• Not necessarily related to age, severity, gender
• Incidence varies from 32% to 73% at 5 years post injury (Ziino & Ponsford, 2005)
• High prevalence in general population
• Many assessment scales
• Majority are self-report measures
• Content of fatigue report relies mostly on subjective feelings
• Often experienced as a phenomenon that involves physical as well as cognitive and social domains
• Perceived as a loss of energy that causes restrictions on social, vocational and family life
• Problems in assessing arises from fact it extends over wide range of symptoms covering different organic systems and influencing activities of daily living and social interaction
• Patients find it difficult to distinguish fatigue from other factors that may or may not be related to their medical condition

• Confounding factors:
  • Medication
  • Psychological issues
  • Cognitive issues
  • Deconditioning

• Adequate assessment important

• Arguably Gold Standard is MDT based assessment
ASSESSMENT
QUESTIONNAIRE

Very often  □
Often      □
Sometimes □
Rarely    □
Fatigue Scales

• Arguably use scale specific to population
• BIFS – Brain Injury Fatigue Scale (Quinn, in press)
  • Self-report & independent rater
  • Differentiates ‘normal’ and pathological fatigue
• BNI- Barrow Neurological Institute Fatigue Scale (Borgaro et al, 2004 & 2005)
  • For use in acute phase for BI
  • Self-report - since injury
• FIS – Fatigue Impact Scale, (Fisk, et al., 1994)
  • Commonly cited in MS fatigue studies
  • No validated on ABI population
  • Shortened version recommended by LaChapelle & Finlayson (1998) for PCS = M-FIS
• FSS – Fatigue Severity Scale Krupp et al, 1989
  • Most commonly used and arguably most well known
  • Used widely in MS
  • General measure – can be found in most assessment places including internet!
• FAS – Fatigue Assessment Scale
  • Suggested as “best buy” for Stroke
  • Mead et al (2007)
• Subscales of more generic ABI symptom questionnaires may indicate presence of clinically significant fatigue
  • EBIQ subscale (Bateman et al., 2009)
  • Profile of Mood States (McNair et al., 1992)
• Scales available may address different aspects of fatigue over different timeframes, in different environments, after different activities

• In the clinical rehabilitation field, measures are selected based on:
  • clinical question to be addressed
  • domain expected to be changed as a result of intervention

• Overall fatigue change may not be noticed on scale measurement:
  • Less fatigue → more activity
  • Outcome ↓ funding
  • Patient → disengagement ↓ hope
• Possible to capture changes qualitatively
  • ↓ worry about their fatigue
  • ↑ sense of control
  • ↑ self efficacy
  • ↑ perceived quality of life
  • ↑ awareness and understanding of fatigue
• This change can be captured through:
  • recognised scale of these constructs
  • using an individualised likert scale before and after intervention
Empirical evidence of discrepancy between objective signs (performance fatigability) and subjective experience (perception) of fatigue. Therefore need a unified taxonomy to guide assessment and intervention (Malley et al., 2014).
Fatigue Assessment Scale (FAS)

Below are a number of questions about possible complaints. Please circle the answer to each question that is applicable to you. Please give an answer to each question, even if you do not have any complaints at the moment. The aim of this questionnaire is to find out how you experience your complaints. There are no correct or incorrect answers. It is important that you are honest.

General Information:

Date: ___-___-200___

Name: ____________________________

Date of birth: ___-___-10___

Sex: male / female

Using prednisone: no / yes

Year of diagnosis of sarcoidosis: ______

e-mail address: ____________________________

Information given by the physician:

TTT: normal / disturbed

Disorder: sarcoidosis / diabetes / other: ____________________________

Prednisone (corticosteroid) use: no / yes

Methotrexate use: no / yes

Other immunoregulatory drug use: no / yes
The following ten statements refer to how you usually feel. Per statement you can choose one out of five answer categories, varying from Never to Always. Please circle the answer to each question that is applicable to you. Please give an answer to each question, even if you do not have any complaints at the moment.

1 = Never, 2 = Sometimes, 3 = Regularly, 4 = Often and 5 = Always.

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Sometimes</th>
<th>Regularly</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am bothered by fatigue</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I get tired very quickly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I don't do much during the day</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I have enough energy for everyday life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Physically, I feel exhausted</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I have problems to start things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I have problems to think clearly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I feel no desire to do anything</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Mentally, I feel exhausted</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. When I am doing something, I can concentrate quite well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Fatigue Severity Scale (FSS)

Instructions:
The FSS contains nine statements that rate the severity of your fatigue symptoms. Please read each statement and circle a number from 1 to 7, based on how accurately it reflects your condition during the past week and the extent to which you agree or disagree that the statement applies to you.

A low value (e.g. 1) indicates strong disagreement with the statement, whereas a high value (e.g. 7) indicates strong agreement.

It is important that you circle a number (1 to 7) for every question.
During the past week, I have found that:

My motivation is lower when I am fatigued .......................... 1 2 3 4 5 6 7
Exercise brings on my fatigue ........................................ 1 2 3 4 5 6 7
I am easily fatigued ........................................................... 1 2 3 4 5 6 7
Fatigue interferes with my physical functioning ............ 1 2 3 4 5 6 7
Fatigue causes frequent problems for me ..................... 1 2 3 4 5 6 7
My fatigue prevents sustained physical functioning ........ 1 2 3 4 5 6 7
Fatigue interferes with carrying out certain duties and ..... 1 2 3 4 5 6 7
responsibilities
Fatigue is among my three most disabling symptoms ...... 1 2 3 4 5 6 7
Fatigue interferes with my work, family, or social life ...... 1 2 3 4 5 6 7
FATIGUE SCALE FOR TRAUMATIC BRAIN INJURY

Instructions:

Please read the statements below. Mark each statement from 1 to 7 using the scale below.

Think about how you have felt over the last 24 to 48 hours.

How much do you agree with the statement?

Weakly disagree | Disagree | Slightly disagree | Neutral | Slightly agree | Agree | Strongly agree
---|---|---|---|---|---|---
1 | 2 | 3 | 4 | 5 | 6 | 7
1 I felt fatigued all day .......................................................... 1 2 3 4 5 6 7
2 I was tired in the morning only ............................................. 1 2 3 4 5 6 7
3 I was tired in the evening only .............................................. 1 2 3 4 5 6 7
4 I felt much more fatigued as the day went on ...................... 1 2 3 4 5 6 7
5 Only my mind was tired ....................................................... 1 2 3 4 5 6 7
6 Only my body was tired ...................................................... 1 2 3 4 5 6 7
7 Both my mind and body were worn out ......................... 1 2 3 4 5 6 7
8 I was too exhausted to get up and get dressed ................. 1 2 3 4 5 6 7
9 I got tired doing my personal care ................................. 1 2 3 4 5 6 7
10 Being worn out interfered with my family life ................ 1 2 3 4 5 6 7
11 My social life was affected by me being fatigued .......... 1 2 3 4 5 6 7
12 Feeling tired interfered with my work ............................. 1 2 3 4 5 6 7
13 I felt tired when I had to think ........................................ 1 2 3 4 5 6 7
14 I felt drained after using my brain .................................. 1 2 3 4 5 6 7
15 I struggled to concentrate during the day ...................... 1 2 3 4 5 6 7
• 60 items
• Includes cognitive fatigue and psychological issues eg:

37. Everything around me felt a little “too fast” …………………… 1 2 3 4 5 6 7
38. I could only manage one thing at a time .......................... 1 2 3 4 5 6 7
39. I found some sensations, like light, sound or touch, .......... 1 2 3 4 5 6 7
   overwhelming
40. Sometimes the light was too bright and overwhelming .... 1 2 3 4 5 6 7
41. Sometimes it was very noisy and too much to handle ...... 1 2 3 4 5 6 7
42. I felt like I needed to get away from everything and block out sound and noises 1 2 3 4 5 6 7
43. I would have described myself as anxious ....................... 1 2 3 4 5 6 7
44. I felt worried most of the day ........................................ 1 2 3 4 5 6 7
45. I found it difficult to stay calm ..................................... 1 2 3 4 5 6 7
46. I thought I would mess up during the day ....................... 1 2 3 4 5 6 7
47. I felt indifferent to things around me .............................. 1 2 3 4 5 6 7
48. I did not have particularly strong feelings about anything 1 2 3 4 5 6 7
49. I was not bothered about future plans ............................ 1 2 3 4 5 6 7

The Raphael Medical Centre
Analogue Scale

- Describe fatigue is on a scale of 1 to 10, where 1 means you don’t feel tired at all and 10 means the worst tiredness you can imagine.
Questioning

- When did it start?
- How long has it lasted?
- Has it got worse over time?
- Does anything make it feel better or worse? For example, exercise, eating or pain.
- Does it affect your daily living activities such as washing, cooking or walking?
- Do you have any problems sleeping?
- Do you have any other major problems in your life such as relationship or financial problems or work worries?
• Do you have any other symptoms with your fatigue, such as feeling or being sick, breathlessness or pain?
• Do you have any other medical conditions?
• Did you feel fatigued before your stroke/neurological condition was diagnosed?
• How long since you have had your bowels open?
• Are you having any problems with passing urine?
PROOF

if proof were needed...
Diaries

- Crucial to get full information from patient
- Diaries useful way
- Compliance an issue
- All completed night before!
- Different options
**ROCHESTER FATIGUE DIARY**

Instructions: Please mark a line each hour to rate your average energy level from energetic (high energy, no fatigue) to exhausted (low energy, severe fatigue) during a 24 hour period (7 am to 7 am).

<table>
<thead>
<tr>
<th>AM (morning)</th>
<th>PM (afternoon)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-8</td>
<td>9-10</td>
</tr>
<tr>
<td>8-9</td>
<td>10-11</td>
</tr>
<tr>
<td>9-10</td>
<td>11-12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PM (evening)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-10</td>
</tr>
<tr>
<td>10-11</td>
</tr>
<tr>
<td>11-12</td>
</tr>
</tbody>
</table>

**EXAMPLE:**

The patient has recorded:
- Mild fatigue from 9 - 10 pm,
- Substantial fatigue from 10 - 11 pm, and
- Asleep from 11 - 12 pm.

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<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Activity Description</th>
<th>Fatigue Score 1-10</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 July</td>
<td>07:15</td>
<td>Wake up and shower (standing up) and brush teeth.</td>
<td>3</td>
<td>Slight balance difficulty and numbness in left arm makes washing harder.</td>
</tr>
<tr>
<td></td>
<td>07:30</td>
<td>Get dressed while partner gets children (standing seven and nine) up and dressed.</td>
<td>4</td>
<td>Get dressed slowly so it is not such an effort.</td>
</tr>
<tr>
<td></td>
<td>08:00</td>
<td>Make breakfast for children.</td>
<td>5</td>
<td>Tend to rely on my right hand — my ‘better’ hand — so things take a bit longer than before.</td>
</tr>
<tr>
<td></td>
<td>08:30</td>
<td>Drive children to school (four-mile round trip).</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>09:00</td>
<td>Make breakfast for myself and have a sit down for half an hour.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00</td>
<td>Sort out the post and pay the phone bill. Make phone calls.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:00</td>
<td>Drive to supermarket for weekly shop (about three miles).</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:15 - 12:15</td>
<td>Walk round the supermarket, pushing trolley.</td>
<td>8</td>
<td>My balance gets worse about half way round the shop, slows me down even more.</td>
</tr>
<tr>
<td></td>
<td>12:15 - 13:30</td>
<td>Have a sit down in supermarket cafe before driving home.</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13:00</td>
<td>Drive home.</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13:15</td>
<td>Take out frozen shopping and put in freezer. Leave rest of bags in car until later.</td>
<td>7</td>
<td>My right arm — my ‘good’ one — is starting to feel tired now, because of all the lifting and carrying.</td>
</tr>
<tr>
<td></td>
<td>13:30</td>
<td>Prepare a light lunch (standing in kitchen, making sandwiches).</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13:40 - 14:30</td>
<td>Sit down in front of TV with lunch.</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14:30 - 15:00</td>
<td>Hoover downstairs (living room and hallway).</td>
<td>0</td>
<td>The hoover helps with balancing, but it is a really heavy one to push.</td>
</tr>
<tr>
<td></td>
<td>15:00</td>
<td>Wash breakfast and lunch dishes (standing up at sink).</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16:30</td>
<td>Bring in rest of shopping from car and put away.</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16:15</td>
<td>Chop vegetables and prepare fish for evening meal sitting down while chopping, getting up to go to fridge, cupboards and cooker; Reaching for ingredients on high shelves occasionally.</td>
<td>7</td>
<td>Again, my right arm gets tired quickly, but both arms feel quite heavy now.</td>
</tr>
<tr>
<td></td>
<td>17:00</td>
<td>Cook meal (put fish in oven and boil peas of vegetables).</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17:15</td>
<td>Partner arrives home with children from child-minder. Partner serves food while I get children washed and ready to eat.</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17:30 - 17:45</td>
<td>Sit down to eat with family.</td>
<td>6</td>
<td>Feel a bit “lazzy-headed” — difficult to concentrate fully.</td>
</tr>
<tr>
<td></td>
<td>17:45</td>
<td>Play with younger son while partner takes the nine-year-old to judo class.</td>
<td>7</td>
<td>I am glad to sit down for most of the time while he plays on the computer because by now I am a bit unsteady on my feet. We also did some reading, but my eyes start ‘swimming’, which always makes it hard to continue.</td>
</tr>
<tr>
<td></td>
<td>19:45</td>
<td>Sit down while partner gets kids ready for bed. Go upstairs to say goodnight to them.</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20:00</td>
<td>Chance to sit and talk with partner.</td>
<td>6</td>
<td>Still a bit “lazzy-headed”. My arms and legs feel heavy.</td>
</tr>
<tr>
<td></td>
<td>21:30</td>
<td>Go upstairs and get changed for bed.</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>22:00</td>
<td>Turn out the lights.</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
• Dependent on focus of diary can record
  • Onset
  • Duration
  • Frequency
  • Variation
  • Score e.g. 0-10
  • Sleep
  • Emotional status
• Adding comments can also be of significant benefit
• However, Fatigue Scales give quicker answer and therefore often clinicians don’t want to use diaries BUT....
• Diaries provide structure
• Helpful in symptom management
• Often help patient reflect on activity and therefore have
Confounding Factors

• Cognition
  • Formal assessment
  • Simple questions
  • Fatigue diary will help highlight

• Mood
  • Formal assessment
    • HADS, BDI, BAI
  • Simple questions
  • Trackers

• Sleep
  • Simple questions
  • Fatigue diary will help highlight
  • Trackers
# Mood Diary

**Name**

**Week of**

<table>
<thead>
<tr>
<th></th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
</tr>
</tbody>
</table>

**Elevated**
- Severe

**Normal**
- Normal
- Mild

**Depressed**
- Moderate
- Severe

**Additional Symptoms**
- Anxiety
- Irritability

**Hours slept**

**Notes**

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DEPRESSION, ANXIETY AND STRESS SCALE (DASS-21)

**Instructions:**
Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week*.
There are no right or wrong answers.
Do not spend too much time on any statement.
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I found it hard to wind down</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>2</td>
<td>I was aware of dryness of my mouth</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>3</td>
<td>I couldn’t seem to experience any positive feeling at all</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>4</td>
<td>I experienced breathing difficulty (e.g. excessively rapid breathing,</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>breathing, breathlessness in the absence of physical exertion)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I found it difficult to work up the initiative to do things</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>6</td>
<td>I tended to over-react to situations</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>7</td>
<td>I experienced trembling (e.g. in the hands)</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>8</td>
<td>I felt that I was using a lot of nervous energy</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>9</td>
<td>I was worried about situations in which I might panic and make a fool of</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>myself</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>I felt that I had nothing to look forward to</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>11</td>
<td>I found myself getting agitated</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>12</td>
<td>I found it difficult to relax</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>13</td>
<td>I felt down-hearted and blue</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>14</td>
<td>I was intolerant of anything that kept me from getting on with what I was</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>doing</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>I felt I was close to panic</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>16</td>
<td>I was unable to become enthusiastic about anything</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>17</td>
<td>I felt I wasn’t worth much as a person</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>18</td>
<td>I felt that I was rather touchy</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>19</td>
<td>I was aware of the action of my heart in the absence of physical exertion</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>(e.g. sense of heart rate increase, heart missing a beat)</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>I felt scared without any good reason</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>21</td>
<td>I felt that life was meaningless</td>
<td>0 1 2 3</td>
</tr>
</tbody>
</table>
## Sleep Diary

**Name:**

**Birth Date:**

**Physician:**

**Diary started on:**

**Remarks / Notes:**

**Medications used:**

<table>
<thead>
<tr>
<th></th>
<th>Midnight</th>
<th>Noon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
<td>6 7 8 9 10 11 12</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**Comments**

*Instructions: In the table above, use 'S' to indicate your sleep hours and 'U' to indicate hours when you were awake.*

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• Assessment is important
• MDT – Gold Standard as uses holistic approach
• Recognise subjective
• Patient’s own words i.e. diaries and trackers imperative as often provide treatment answer
• Confounding factors must not be forgotten