



FOCUS ON RESEARCH

FATIGUE AFTER STROKE-A LONGITUDINAL COHORT STUDY OF FREQUENCY AND ASSOCIATIONS WITH REDUCED PHYSICAL ACTIVITY AND DECONDITIONING

Researchers

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Aim

Our main aims were to determine how many stroke survivors experienced post-stroke fatigue over the first year after a stroke, and whether fatigue was associated with being less fit and active. We also wanted to find out whether there are different types of fatigue and whether abnormalities of the brain scan predicted fatigue.

Project Outline/Methodology

We recruited patients admitted to hospital or seen in an outpatient clinic with an acute stroke. At recruitment we asked about pre-stroke fatigue and levels of physical activity prior to the stroke. We attempted to follow these patients up for a year. At 1 month, 6 months and 12 months after the stroke, we asked patients about fatigue (using a case definition to identify clinically significant fatigue, and a scale to assess its severity) and mood, measured physical activity using an accelerometer (a small device attached to the thigh for 7 days), and measured physical fitness (including muscle strength, muscle power and aerobic fitness).

Key Results

We recruited 157 stroke survivors, of whom 132 attended the one month assessment, 105 the six month and 91 attended the 12 month assessment. Median age was 72 years, 63.1% were men and stroke severity was generally mild.

At one month after stroke, about a third of patients had clinically significant fatigue; this fell to around a fifth at six months and 12 months.

Pre-stroke levels of activity was the only baseline variable that predicted fatigue at all three time points.

Our simple (univariate) analyses showed associations between fatigue severity and time spent stepping at all three time points. Time spent stepping was associated with case definition for fatigue at 6 months and 12 months.

Our multivariate analyses (in which we considered the relationships between fatigue and several

variables including depression, anxiety, sleepiness) showed that at 1 month, only 31% of the variation in fatigue could be explained by time spent stepping, depression, anxiety and sleepiness. At 6 months, sleepiness was significantly associated with fatigue. At 12 months, time spent stepping, anxiety, and depression were significantly associated with fatigue, and together these variables explained about 70% of the variation in fatigue. Anxiety at 1 month predicted fatigue at 6 months. Low step count and anxiety at 6 months predicted fatigue at 12 months.

We found no association between abnormalities on the brain scans at the time of the stroke and fatigue at one month.

At one month, there were no specific subtypes of fatigue, whilst at six and 12 months, there were both mental and physical elements to the fatigue.

Our longitudinal analyses of activity suggested that whilst physical activity levels tend to increase over the first year after stroke, this was not associated with an increase in indices of fitness.

Conclusions

Fatigue affects a third of stroke survivors at 1 month. The proportion affected by fatigue fell to about a fifth at 12 months. Fatigue was associated with being less active but was generally not associated with being less physically fit. Being anxious after stroke was associated with the development of fatigue.

What does this study add to the field?

This is the first study to show that post-stroke fatigue is associated with being less physically active both before a stroke and after a stroke.

Implications for Practice or Policy

Stroke survivors with fatigue should be encouraged wherever possible to be physically active. If they are anxious, this should be treated.

Where to next?

We are planning to develop a brief psychological intervention to treat post-stroke fatigue. Central to this intervention will be advice on increasing activity and how to manage anxiety.

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