

The influence of fatigue after stroke on long-term survival: analysis of data from International Stroke Trial

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for UK IST investigators



Fatigue after stroke is common and important

- Fatigue affects about 40% of stroke survivors
- It is one of the most distressing symptoms
- It interferes with rehabilitation and with activities of daily living
- Influence of fatigue on long-term survival is uncertain



Measuring fatigue severity after stroke

- We have previously tested four generic fatigue scales, including the vitality component of the SF-36, in people after stroke
- Vitality component of SF-36 has
 - Face validity
 - Test-retest reliability
 - Inter-rater reliability
 - Correlates with other fatigue scales
 - Higher SF-36 vitality scores indicate less fatigue

Aim

- To determine the influence of SF-36 vitality score (as a measure of fatigue) on long-term survival after stroke, using data from a UK sub-study of the International Stroke Trial

The International Stroke Trial and substudy of patients recruited to UK centres

- IST was a RCT of the effect of aspirin, subcutaneous heparin, both or neither, among 19,435 patients with acute ischaemic stroke <48 hours of stroke onset.
- Surviving patients (n=2253) recruited by UK centres were sent either a SF-36 or EuroQUOL at a mean of 64 (SD 30) weeks following randomisation
- Of the 1400 patients sent a SF-36, 1080 (77%) responded (SF-36 vitality component missing in 74 patients)
- All UK patients in IST were 'flagged' at the Office of National Statistics central registry of deaths.
- Data were obtained on deaths occurring up to November 2000 (n=1072)

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Dorman et al BMJ 1997, Bruins Slot et al BMJ 2008

Methods (1)

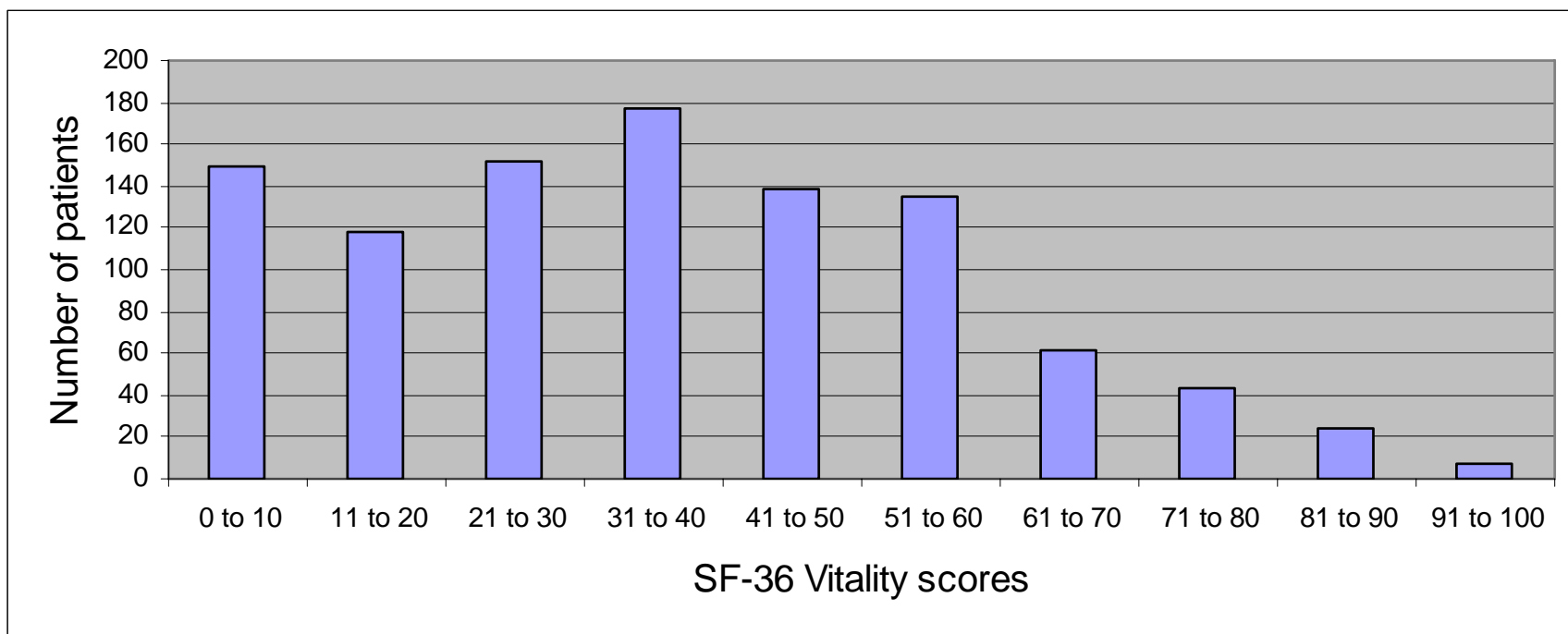
- Cox proportional hazards model was generated containing the following variables for 1072 patients
 - Age
 - Sex
 - Pathological subtype
 - Stroke subtype
 - Stroke severity (using a validated prognostic score)
 - Visible infarct on brain imaging
 - Atrial fibrillation
 - Vitality score of SF-36
 - SF-36 mental health score and emotional role score

Methods (2)

- Where the initial model generated contained variables which did not reach statistical significance (5% level), we removed the least significant variable and generated a new model.
- We repeated this process until the only variables remaining in the model were those which reached statistical significance.
- We calculated four different models to explore robustness to differing assumptions about missing variables.

Results (1)

Distribution of SF-36 vitality scores



Survival

- Of those patients included in the analysis 39.2% (420/1072) died during the study follow-up period
- Mean (sd) time from randomisation to death was 1227 (589) days
- Of those not known to have died the mean (sd) follow-up was 2369 (221) days

Influence of SF-36 vitality scores on survival

Method of treating missing observations for SF-36 vitality	Hazard ratio	95% confidence intervals
Missing	0.989	0.984, 0.993
Minimum	0.988	0.984, 0.992
Maximum	0.997	0.993, 1.000
Mean	0.989	0.984, 0.994

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Conclusion

- Fatigue a few months after stroke has a negative influence on long-term survival
- Further analyses are planned to explore the clinical significance of these findings
- The mechanisms underlying this association are not known

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