

Northumbria Research Link

Citation: Dempsey, S., McDonald, L., Sayers, I., Gray, William Keith, Hand, Annette and Walker, Richard (2019) Factors affecting mortality in late stage Parkinson's Disease. In: International Parkinson and Movement Disorder Society, 22-26th September 2019, Nice, France.

URL: <https://www.mdsabstracts.org/abstract/factors-affecting-mortality-in-late-stage-parkinsons-disease/>

This version was downloaded from Northumbria Research Link: <http://nrl.northumbria.ac.uk/id/eprint/42908/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)

Factors Affecting Mortality in Late Stage Parkinson's Disease

S. Dempsey^A, L. McDonald^A, I. Sayers^A, W. Gray^B, A. Hand^{B,C} and R. Walker^{A,B}

A. Newcastle University

B. Northumbria Healthcare NHS Foundation Trust

C. Northumbria University

Background

- Parkinson's disease (PD) is a neurodegenerative condition associated with increased mortality, although studies disagree to what extent.^[1]
- Previous research on predictors of mortality has focused on early rather than late stage PD.^[2,3]
- The leading cause of mortality in Parkinson's disease patients is pneumonia.^[4]

Objectives

- To determine the association of dysphagia and hospital admissions with mortality in Parkinson's Disease.

Method

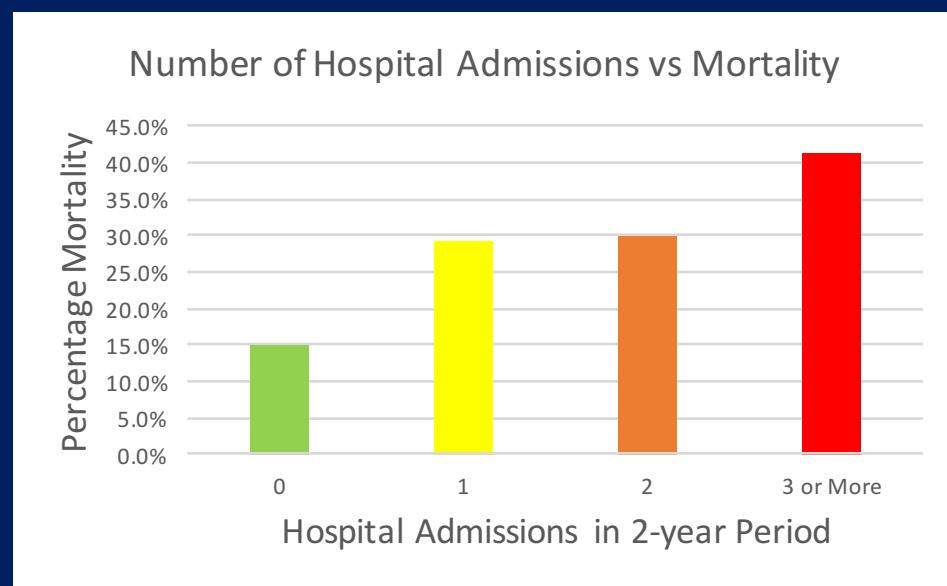
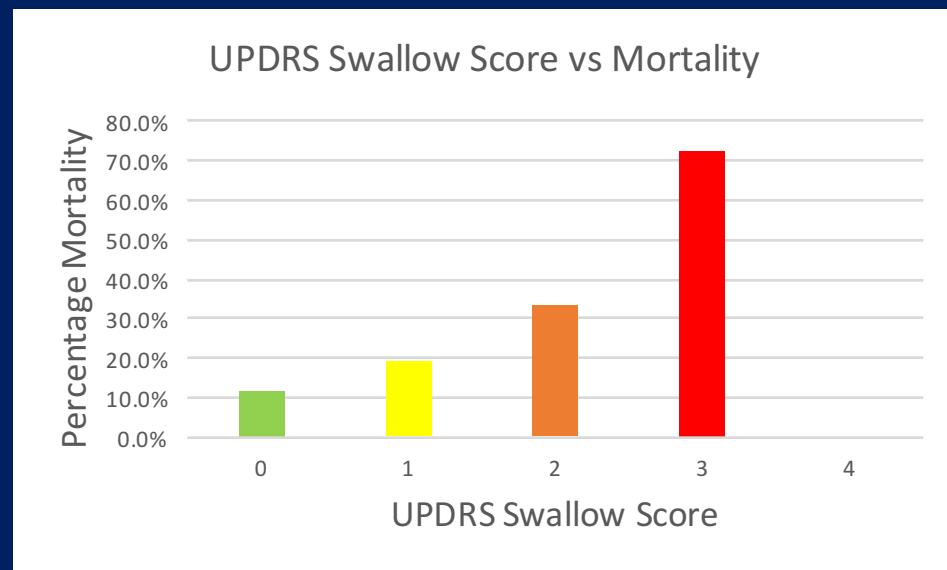
- A prospective study where patients with later stage PD (Hoehn & Yahr stages III-V) known to the Northumbria PD service were interviewed at baseline and had deaths, hospital and care home admissions recorded for 2 years.
- Dysphagia was assessed with a binary question about the presence of swallowing problems and using question 2.3 of the "Unified Parkinson's Disease Rating Scale (UPDRS), where 0 = no problems, 1 = increased effort swallowing, 2 = modified diet, 3 = episode of choking in the past week, 4 = tube feeding.

Results

- Of the 162 patients originally interviewed, 36 (22.2%) died during the two-year follow-up.
- 18 patients (11.1%) entered a care home during follow-up, including 10 of the 36 who died.

Swallowing	Mortality
No dysphagia	17.4%
Dysphagia	32.6%
P Value	0.034

UPDRS 2.3	Mortality	Hospital Admissions	Mortality
0	11.9%	0	14.9%
1	19.4%	1	29.3%
2	33.3%	2	30.0%
3	72.7%	3 or More	41.2%
4	0.0%		
P Value	0.0004	P Value	0.006



Discussion

- There was a significant increase in mortality in those with dysphagia when using either UPDRS 2.3 or a yes/no question, possibly due to the complications of dysphagia, e.g. pneumonia, or as a sign of disease progression.
- Those with hospital admissions had higher rates of mortality than those without, with a trend of increased mortality the greater the number of admissions.

Recommendations

- Dysphagia should be assessed in Parkinson's patients when predicting mortality.
- Patients with multiple hospital admissions may need greater follow-up due to its relationship with mortality.
- Analysis surrounding cause of admission and total length of stay may allow more accurate prediction of mortality in future.

Limitations

- Only one patient had a UPDRS score of 4, so the impact of enteral nutrition on mortality could not be assessed.
- There was only a small number of patients with a large amount of admissions, so a larger sample size may have altered the observed trend between increasing number of admissions and mortality.

References:

- 1) Macleod, A. D., Taylor, K. S. and Counsell, C. E. (2014), Mortality in Parkinson's disease: A systematic review and meta-analysis. *Mov Disord.*, 29 (13): pp1615-1622.
- 2) Bäckström, D., Granåsen, G., Domellöf, M. E., Linder, J. et al. (2018) Early predictors of mortality in parkinsonism and Parkinson disease. *Neurology*, 91 (22): pp2045-2056.
- 3) Macleod, A. D. and Counsell, C. E. (2016) Predictors of mortality in Parkinson's disease and the development of a prognostic model. *Lancet*, 387: p67
- 4) Pennington, S., Snell, K., Lee, M. and Walker, R. (2010) The cause of death in idiopathic Parkinson's disease. *Parkinsonism & Related Disorders*, 16 (7): pp434-437.