Hospitalisation and comorbidities in Parkinson's disease: A large Australian retrospect study

Michal Lubomski Dr.
7.0 CHAPTER 7 – CONCLUSIONS

7.1 Introduction

In this chapter, the conclusions and recommendations that follow from this study are discussed. Many of these were described in the publication in the JNPP, (75) which forms the main component of this Thesis. However, further recommendations are made with regards to practical measures that can be taken to prevent both unnecessary hospitalisations for patients with Parkinson’s disease and to minimise the risk of adverse events among Parkinson’s disease inpatients. These will be discussed in the following paragraphs. The remainder of the chapter covers a discussion of my learning experiences as a maturing researcher, in addition to recommendations for future research in this area, including the utilisation of record-linkage to examine the long-term outcomes of patients with Parkinson’s disease.

7.2 Published Conclusions

The project’s most significant results were firstly, that patients with Parkinson’s disease had a considerably higher proportion of hospitalisations with complications, including delirium, adverse drug events, syncope, falls/fractures, dementia, gastrointestinal complications, genitourinary infections, reduced mobility and other trauma than patients in the comparison sample. Further, it was identified that hospitalisations for patients with Parkinson’s disease in NSW occurred more often in the private than public sector. Hospitalisations also occurred more frequently in men and those in a married or de facto relationship and were associated with a longer hospital stay than patients in the comparison sample group.

In addition, a greater proportion of the Parkinson’s disease patients were treated in hospital following a planned admission and more of these patients were transferred to other hospitals or nursing homes post discharge. Patients with Parkinson’s disease receiving treatment in hospital had higher levels of a number of health problems than those in the comparison sample. These included falls / fractures, dementia, DBS, psychiatric illness, gastrointestinal
complications, syncope / orthostatic hypotension, genitourinary infections, encephalopathy / delirium, reduced mobility / motor fluctuation, pneumonia, spinal pain, adverse drug events, other trauma, sleep disorders / restless legs syndrome, venous thromboembolism and electroconvulsive therapy. However, patients with Parkinson’s disease had a lower proportion of cardiac diseases, neoplasia and chronic airways disease than the comparison group and the frequency of anaemia and stroke / TIA was comparable between the two groups. Reassuringly, the results of the present study were similar to those from other international studies which found that admissions for falls, mobility complications, pneumonia, psychiatric problems, genitourinary infections and trauma were more prevalent among Parkinson’s disease patients than controls.

Moreover, the Parkinson’s disease patients in the study group had a shorter hospital stay than reported in other groups, internationally. (30) This may be a reflection of the more integrated approach to hospital care in Australia for patients with Parkinson’s disease, which aims to incorporate the early use of allied health and acute medical units. Alternatively, it may be a reflection of the slightly higher proportion of planned admissions in the Parkinson’s disease group in the Australian sample.

Following the analysis, a number of practical steps were recommended in an effort to improve health outcomes and reduce the number of unnecessary hospitalisations. These recommendations included highlighting the need for pre-hospital management and prevention of exacerbations of chronic comorbidities through better utilisation of specialist clinics and primary care. It was further suggested that hospital clinicians should identify patients at risk of complications early and work with multidisciplinary teams to ensure complications are minimised. Further recommendations addressing gait and balance assessments; adopting falls prevention strategies; early swallowing and speech therapy reviews; nutritional and dietary support; education on the common adverse drug events in Parkinson’s disease; as well as timely administration of medication were proposed as means of potentially benefiting the hospitalised Parkinson’s disease patient.
7.3 What I Have Learnt As A Maturing Researcher

Completion of this research project has provided valuable learning experiences for me in the analytical, research and clinical domains. It has provided me with an improved understanding of the importance of conducting sound epidemiological research into clinically important and relevant issues relating to a common neurological disorder and that frequently results in patient hospitalisation. Undertaking a literature review highlighted the issues related to hospitalised care for Parkinson’s disease patients, whereas completing the analysis and developing discussion points in the article and thesis allowed me to further reflect on and challenge my understanding of the best way to manage and minimise complications for common causes of Parkinson’s disease related hospitalisation. This has certainly had a positive impact on my future interest in continuing work in the field of neurodegenerative disorders, particularly Parkinson’s disease, both in a clinical and research context. As a maturing researcher, I have tried to suggest useful recommendations that can positively influence Parkinson’s disease patients’ hospitalisations. As well, I have acknowledged the limitations, flaws and difficulties encountered in our study. These could either be addressed in further studies, or refined using our existing dataset with a view to providing further research into aspects of the epidemiology of Parkinson’s disease in NSW.

7.4 Future Directions

The completion of this project had fostered future interest in developing other potential research directions in the neuro-epidemiology of Parkinson’s disease. Research questions investigating the causes of death in previously hospitalised Parkinson’s disease patients could provide invaluable new information on the health outcomes of patients with Parkinson’s disease. This would best be achieved by developing a record-linkage project, which would match the hospital records of patients with the mortality files held by government agencies. There is a paucity of information on the long-term health outcomes of Parkinson’s disease patients, including the causes of death in this patient group both in Australia and around the world. A comprehensive evaluation of such a dataset would be potentially beneficial for patients and their families.
Other potential areas of research include reviews of other types of hospitalisations, including sub-acute care and rehabilitation. As a significant proportion of patients with Parkinson’s disease require rehabilitation focused medical care, either as the reason for an admission or following an episode of acute care, this type of analysis could also further inform the provision of rehabilitation services and their associated funding. Exploration of the patterns of utilisation of various allied health professionals, admissions for particular rehabilitation goals, overall and according to patient subgroups could be used to benchmark particular outcomes, such as length of stay, adverse events and discharge destinations.

It is hoped that, with the completion of the current and proposed research evaluating various clinical and epidemiological aspects of Parkinson’s disease, a more comprehensive involvement with larger research groups both in Australia and overseas could be undertaken in movement disorders in the later years of my training.