



GUIDELINE COMPARISON AND ASSESSMENT OF PRESCRIBING TRENDS IN PARKINSON'S DISEASE

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ABSTRACT

OBJECTIVE To assess adherence to guidelines for the management of Parkinson's disease (PD) by healthcare professionals at the Rehabilitation Hospital Karin Grech (RHKG) in Malta.

METHOD Retrospective and current data of inpatient medical records at RHKG was collected for 90 patients. Guidelines available at the hospital were reviewed and a comparison was compiled. Data collected and the compiled guidelines were used to assess the level of adherence of treatment decisions to guidelines. Analysis of data was carried out using Microsoft Office Excel® 2007 and SPSS® version 17.0.

KEY FINDINGS Results show generally high adherence to published guidelines. Out of 22 patients started on co-careldopa therapy at the hospital, 16 had treatment decisions which adhered to guidelines. In the case of co-beneldopa, ropinirole and trihexyphenidyl (benzhexol) treatment, all patients had their treatment decisions implemented according to guidelines.

CONCLUSION Healthcare professionals at RHKG are aware of the presence of treatment guidelines. The adherence of their treatment decisions to guidelines indicates a good quality of care. Frequent assessment of the level of adherence to guidelines using similar studies will ensure optimisation of treatment.

KEYWORDS Parkinson's disease, management guidelines, adherence, prescribing trends.

INTRODUCTION

Parkinson's disease (PD), historically known as 'the shaking palsy'¹ has become the second most common progressive neurodegenerative disorder after Alzheimer's disease.² A systematic review of the worldwide prevalence and incidence of PD, conducted by a thorough literature review of epidemiological studies from 1965 to 2010 concluded that PD prevalence and incidence increase with advancing age.³ There are many reasons for a decreased quality of life in PD patients including decreased mobility, falls, sleep disturbances, social embarrassment, which consequently affects patient's communication, dyskinesia and fluctuation.⁴

Levodopa is considered the gold standard therapy and remains the most commonly used drug in PD since its first use 40 years ago.⁵ Although levodopa is very effective in improving both bradykinesia and rigidity, its use is often delayed to avoid early development of motor fluctuations and dyskinesia, which will establish a source of disability. Other medications that are considered in the treatment of PD include dopamine receptor agonists, monoamine oxidase-B inhibitors, catechol-o-methyl transferase inhibitors and amantadine. Although recommendations for the use of such medications differ between guidelines, yet the consultation of such evidence-based guidelines in any healthcare setting is considered of paramount importance to help healthcare professionals optimise management of PD patients.

The aims of this study were to compile a comparison of guidelines for PD treatment, to assess prescribing patterns of antiparkinsonian medications at RHKG and to investigate whether PD treatment decisions adhere to the compiled guidelines.

METHOD

Patients suffering from PD were identified from pharmacy patient profiles in the case of inpatients and directly from clinical notes in the case of patients attending day clinics. Retrospective and current data obtained included age, gender, reason for referral, drug history, treatment changes, pharmaceutical care issues and discharge medication. The study was adapted from similar work undertaken by Schroder *et al* (2010).⁶

The study design involved two processes; a theoretical and a practical approach. In the theoretical approach, the guidelines generally referred to at RHKG were identified, namely the National Institute for Health and Clinical Excellence (NICE) guidelines⁷ and the Scottish Intercollegiate Guidelines Network (SIGN) guidelines.⁸ A review and comparison of the latest version of these guidelines for PD was compiled. The practical approach involved data collection and assessment of the level of adherence of prescribing trends to guidelines (Table 1). The criteria of assessment included a dosing parameter in which doses of prescribed antiparkinsonian medications were compared to the dosing parameters in the British National Formulary.⁹

Data collected was further classified according to whether patients were taking antiparkinsonian drugs prior to admission according to their drug history.

RESULTS

Ninety patients were included in the study. The mean age of patients was 78 years. These patients were classified into two groups: the no drug history group, those patients who had no drug history of antiparkinsonian drugs on admission (n=26), and the drug history group, patients who were using antiparkinsonian drugs on admission (n=64).

For the 26 patients who had no drug history and were admitted to RHKG with symptoms of parkinsonism, 22 patients were started on co-careldopa, 1 patient was started on ropinirole as monotherapy and 3 patients were not started on any drug therapy. Adherence to guidelines was assessed by evaluating method of initiation of treatment and dose management. For the 22 patients started on co-careldopa, the introduction of co-careldopa treatment was according to guidelines for 16 patients whereas in the remaining 6 patients, patients were started on a low dose of 55 mg twice daily (Figure 1).

For patients admitted with a drug history of antiparkinsonian agents, 54 patients were taking co-careldopa, 9 patients were taking co-beneldopa of which 1 patient was taking also trihexyphenidyl (benzhexol), and 1 patient was taking ropinirole as monotherapy. Of the 54 patients taking co-careldopa, 8 were also taking ropinirole. Assessment of adherence to guidelines was evaluated by assessing dose management (Table 2).

Patient number	Age	Year	Reason for referral	Drug history	Treatment changes	Treatment on discharge
1	67	2010	increased stiffness + tremors	co-careldopa 110mg three times daily	increased to 110mg three times daily + 55mg at night → after 1 week increased to 110mg four times daily	co-careldopa 110mg four times daily
		2011	decreased mobility + decreased independence in activities of daily living and dizziness	co-careldopa 110mg four times daily	remained on co-careldopa four times daily	co-careldopa 110mg four times daily

Table 1: Sample of data collection tables

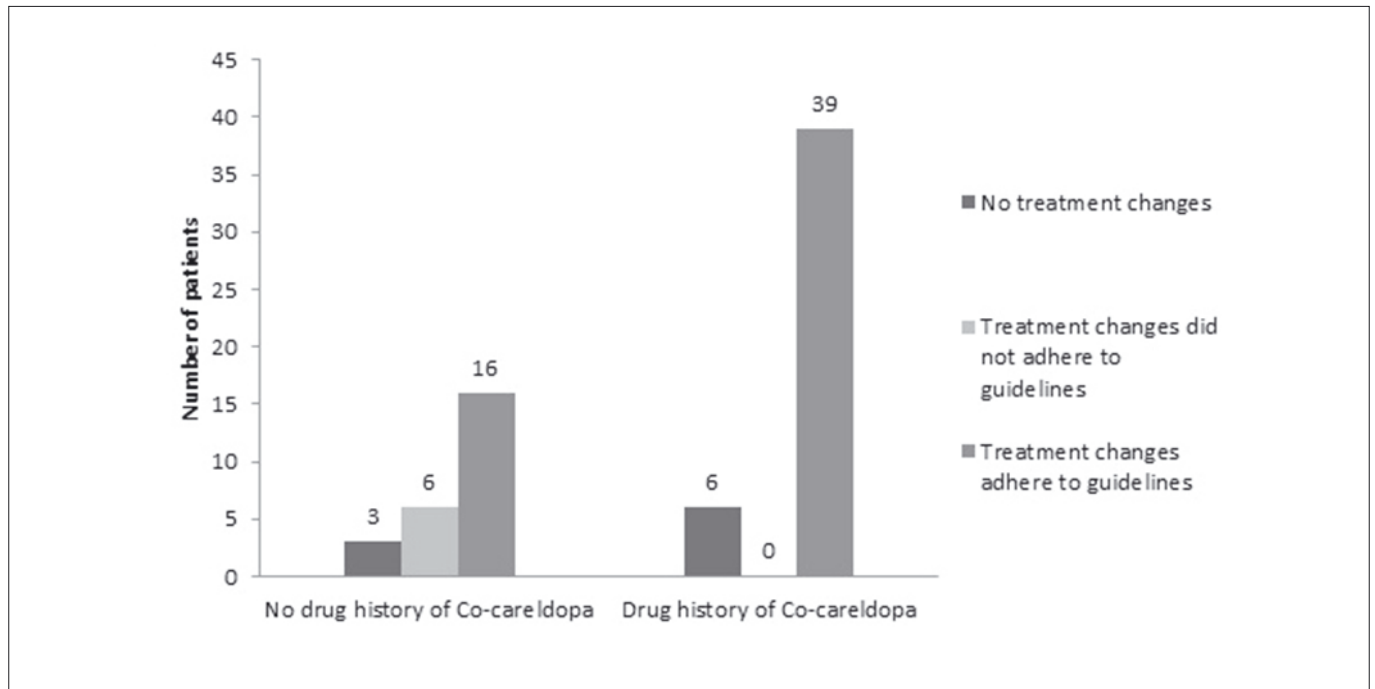


Figure 1: Adherence to guidelines for co-careldopa

Drug	Changes to treatment (number of patients)
Co-careldopa (n=54)	Dose changes according to guidelines (39) Stopped treatment (9) No change (6)
Co-beneldopa (n=9)	Dose changes according to guidelines (8) No change (1)
Ropinirole (n=9)	Dose changes according to guidelines (6) Stopped treatment (3)
Trihexyphenidyl (Benzhexol) (n=1)	Stopped treatment (1)

Table 2: Drug therapy amendments for patients admitted with antiparkinsonian drugs (n=64)

Co-careldopa was the drug that was most frequently included in the drug treatment for both groups. There was 100% adherence to guidelines for dose adjustments of patients who were already on the drug and 73% adherence was identified for patients who were started on the drug during hospitalisation (Figure 1). It is worth noting that the non-adherence was due to a lower dose being started and this could be explained due to cautionary aspects which the clinical team were considering when managing the individual patients.

DISCUSSION

This study showed a high overall level of adherence to PD guidelines. Initial results show that PD treatment is dominated by levodopa, followed by the dopamine agonist ropinirole. The combination of levodopa and dopamine agonists was also observed in many patients. Patients in this study were not classified according to functional impairment grades, as it was not possible to use this indication as an assessment criterion.

In clinical practice, guidelines should be perceived as the standards of practice which are adopted within a culture of allowing professional judgement by the clinical team.

Another limitation to the study was that information was collected only from the pharmacy patient profiles with no involvement of the clinical team to justify non-adherence to guidelines. In clinical practice, guidelines should be perceived as the standards of practice which are adopted within a culture of allowing professional judgement by the clinical team. Such deviations from standards need to be justified and documented in the patient profile. The pharmacist intervention in the clinical team becomes especially valuable in managing and co-ordinating these deviations which are normally warranted due to co-morbidities and other drug therapies.

CONCLUSION

Studies that assess the level of adherence of treatment decisions to evidence-based guidelines are useful because they can be used to identify where pharmacist intervention is required to rationalise drug therapy and where pharmacist intervention is valuable so as to manage justified deviations from the guidelines.

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