Demonstrating the clinical value of MANAGE-PD tool in assessing symptom control of Parkinson’s disease patients: Evidence from G7 Countries

Angelo Antonini1, Per Odin2, Ali Abdai3,4, Fernando Cubillos1, Peter N. Schmidt1, Yash J. Jalundhwala5, Koray Onuk6, Jorge Zamudio7, Pavnil K Kukreja8, Eddie Jones9, Jack Wright10,Hubert H. Fernandez11
1University of Padova, Padova, Italy; 2University of Lund, Lund, Sweden; 3AbbVie Inc., North Chicago, IL, USA; 4University of Illinois at Chicago, Chicago, IL, USA; 5Parkinson’s Foundation, Miami, FL, USA; 6Broyd School of Medicine, East Carolina University, Greenville, NC, USA; 7Adelphi Real World, Adelphi Mill, Boulder, CO; 8Center for Neurorestoration, Cleveland Clinic, Cleveland, OH, USA

Presented at the Movement Disorder Society 23rd International Congress of Parkinson’s Disease and Movement Disorders • Virtual • September 12-16, 2020

BACKGROUND

• A lack of universal definition and absence of standard testing leads to challenges in identification and symptom management in advanced Parkinson’s disease

• Tools that can assist clinicians in identifying patients whose symptoms are inadequately controlled or who are eligible for advanced PD therapies are important for routine clinical practice

• Making Informed Decisions to Aid Timely Management of Parkinson’s Disease (MANAGE-PD) is a validated1,2 web-based tool designed to support healthcare providers in identifying patients with PD that may be inadequately controlled on oral medications.

• The MANAGE-PD tool is available for use by U.S. Healthcare Professionals only. The tool can be accessed here: https://abbvie1.outsystemsenterprise.com/GMAEventPublications/Assets.aspx?ConferenceId=160

• The tool was developed using a mixed-method approach3, building on consensus clinical indicators of advanced Parkinson’s disease identified by leading movement disorder specialists and demonstrated strong validity using hypothetical patient vignettes4 and real-world patient-level data5.

OBJECTIVE

• To evaluate the clinical value of using the MANAGE-PD tool for assessing PD symptom control in a real-world setting

METHODS

Population

• A secondary analysis using data from the multi-country Adelphi Parkinson’s Disease Speciality Panel (DSP) was conducted. The Parkinson’s DSP is a cross-sectional survey of neurologists and their patients with Parkinson’s Disease (PD) conducted across G7 countries (US, France, Germany, Italy, Spain, UK, Japan). The DSP is a published methodology6.

• A sample of device-aided therapy naïve PD patients from G7 countries who were on oral therapy only and managed by movement disorder specialists were included.

Measures

• Patients were evaluated in clinical practice and independently grouped into 3 categories based on MANAGE-PD scoring algorithm and clinician judgement: (i) adequately controlled on oral therapy, (ii) inadequately controlled on oral therapy and consider oral optimization only, (iii) inadequately controlled on oral therapy and consider evaluation for DAT along with oral optimization (Figure 1)

• Demographics, clinical characteristics, and measures of disease severity and burden were evaluated for all patients.

• Measures included daily hours of OFF-time, weekly hours of overall caregiver support, hospitalization rate in the last 12 months, cognitive impairment using Mini-mental state examination (MMSE), quality of life using Parkinson’s Disease Questionnaire (PDQ 39), and caregiver burden using Zarit Burden Index (ZBI)

• Concordance between MANAGE-PD and clinician judgement was evaluated

• Amongst the discordant cases, accuracy was assessed based on comparing known measures of disease severity between patients scored as higher severity by MANAGE-PD with patients scored as higher severity by clinician judgement.

Statistical Analysis

• Kruskal-Wallis comparison using i-tests, chi-squared, and Fisher’s Exact to compare between patients scored as higher severity by MANAGE-PD with patients scored as higher severity by clinician judgement.

RESULTS

Table 1: Concordance of patient category based on independent assessment using MANAGE-PD tool and clinician judgement.

<table>
<thead>
<tr>
<th>Category</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controlled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 1</td>
<td>866</td>
<td>310</td>
<td>62</td>
</tr>
<tr>
<td>Category 2</td>
<td>63</td>
<td>92</td>
<td>68</td>
</tr>
<tr>
<td>Category 3</td>
<td>170</td>
<td>205</td>
<td>200</td>
</tr>
</tbody>
</table>

Table 1: Concordance of patient category based on independent assessment using MANAGE-PD tool and clinician judgement.

- Concordance
  - Of the analytical sample, 858 (43%) patients had a mismatch in level of clinical control between MANAGE-PD and clinician judgement (Table 1)
  - Among this mismatched cases, there was an almost equal distribution of patients rated as higher severity by clinician judgement (Group B; n=418) and patients rated as higher severity by MANAGE-PD (Group C; n=440) (Table 1)

- Statistical Analysis
  - Kruskal-Wallis comparison using i-tests, chi-squared, and Fisher’s Exact to compare between patients scored as higher severity by MANAGE-PD with patients scored as higher severity by clinician judgement.

Statistical Analysis

- Kruskal-Wallis comparison using i-tests, chi-squared, and Fisher’s Exact to compare between patients scored as higher severity by MANAGE-PD with patients scored as higher severity by clinician judgement.

- Concordance
  - Of the analytical sample, 858 (43%) patients had a mismatch in level of clinical control between MANAGE-PD and clinician judgement (Table 1)
  - Among this mismatched cases, there was an almost equal distribution of patients rated as higher severity by clinician judgement (Group B; n=418) and patients rated as higher severity by MANAGE-PD (Group C; n=440) (Table 1)

Concordance

- Of the analytical sample, 858 (43%) patients had a mismatch in level of clinical control between MANAGE-PD and clinician judgement (Table 1)

- Among this mismatched cases, there was an almost equal distribution of patients rated as higher severity by clinician judgement (Group B; n=418) and patients rated as higher severity by MANAGE-PD (Group C; n=440) (Table 1)

DISCUSSION & CONCLUSIONS

• In this large, real-world, international population, patients rated as having higher severity by MANAGE-PD tool demonstrated incrementally higher disease burden

• Lack of routine standardized testing in current clinical practice means these inadequately controlled PD patients may not be identified and managed in a timely manner.

• This study reinforces the clinical value of MANAGE-PD in timely identifying patients whose symptoms are sub-optimally controlled with oral treatment and who may benefit from optimization and/or advanced treatment approaches

• Limitations include: the sample is not random, and this could introduce bias; and the quality data partly depends on the accurate reporting of information, which may result in recall bias

• However, this large, international dataset is derived from the Adelphi DSP, which offers a robust sample of patients receiving care in real-world settings

• In addition, the MANAGE-PD tool is based on robust quantitative and qualitative evidence from a panel of leading PD specialists across multiple countries

• Clinical use of the MANAGE-PD tool may facilitate identification and management of symptoms and could lead to timely discussions between clinicians and patients resulting in possible improvement in patients’ quality of life

ACKNOWLEDGEMENTS

The authors would like to acknowledge Nicola Gupta, an employee of AbbVie for her contribution to the data collection.

AUTHOR DISCLOSURES

- Angelo Antonini has received compensation for consultancy and speaker related activities from AbbVie, Chiesi, Lobsor, Zambon, Britannia, Ever Pharma, Lobsor, Japan, Zambon, Skalicky, and Benford. He has also received research support from Chiesi Pharmaceuticals and Lundbeck.
- Ali Abdai: Yash J. Jalundhwala, Koray Onuk, Jorge Zamudio, and Pavnil K Kukreja on employees of AbbVie and non competing shareholders in the company.
- P. Schmidt: received travel compensation for consultations and speaker related activities from Abbott, Eisai, Boehringer, Nippon, Lundbeck, Stada, and Zambon. He has received honoraria for talks and consultancy from AbbVie, UCB, and Sumitomo.
- Eddie Jones was an employee of the Parkinson’s Foundation at the time of the study.
- Jack Wright: a full-time employee of AbbVie, which is a privately held, publicly traded company that was previously AbbVie and now operates as the AbbVie Alzheimers Disease Specialized Program.
- Hubert H. Fernandez has received research support from bioniche and served as consultant/neurologist and speaker for AbbVie.

AbbVie DISCLOSURES

This study was supported by AbbVie, Inc. AbbVie participated in study design, research, data collection, analysis and interpretation of data, writing, reviewing, and approving the publication.

ACKNOWLEDGEMENTS

The authors would like to acknowledge Nicola Gupta, an employee of AbbVie for her contribution to the data collection.

AUTHOR DISCLOSURES

- Angelo Antonini has received compensation for consultancy and speaker related activities from AbbVie, Chiesi, Lobsor, Zambon, Britannia, Ever Pharma, Lobsor, Japan, Zambon, Skalicky, and Benford. He has also received research support from Chiesi Pharmaceuticals and Lundbeck.
- Ali Abdai: Yash J. Jalundhwala, Koray Onuk, Jorge Zamudio, and Pavnil K Kukreja on employees of AbbVie and non competing shareholders in the company.
- P. Schmidt: received travel compensation for consultations and speaker related activities from Abbott, Eisai, Boehringer, Nippon, Lundbeck, Stada, and Zambon. He has received honoraria for talks and consultancy from AbbVie, UCB, and Sumitomo.
- Eddie Jones was an employee of the Parkinson’s Foundation at the time of the study.
- Jack Wright: a full-time employee of AbbVie, which is a privately held, publicly traded company that was previously AbbVie and now operates as the AbbVie Alzheimers Disease Specialized Program.
- Hubert H. Fernandez has received research support from bioniche and served as consultant/neurologist and speaker for AbbVie.

AbbVie DISCLOSURES

This study was supported by AbbVie, Inc. AbbVie participated in study design, research, data collection, analysis and interpretation of data, writing, reviewing, and approving the publication.

FUNDING STATEMENT

Financial support for the study was provided by AbbVie. AbbVie participated in the interpretation of the data, review, and approval of the poster. All authors contributed to the development of the poster and manuscript. Financial support is provided by AbbVie.