Adherence issues in Multiple Sclerosis Treatment: How can Acceptance Measurement Help Understanding Patients’ Concerns and Working on Solutions?

Wiederkehr Sandra¹, PhD, de Bock Elodie¹, PhD, Chekroun Michael², Arnould Benoit¹, PhD
¹Patient-Centered Outcomes, Mapi, Lyon, France, ²Carenity, Paris, France

BACKGROUND
• Management of most chronic conditions requires the patients to take long-term treatments.
• Lack of adherence and persistence are major barriers to treatment efficacy.
• Patients’ behaviour and attitude toward their treatment are hypothesised to result from their complex evaluation of the risk-benefit ratio of their treatment.
• Measuring patients’ acceptance of their medication can help better understand and predict patients’ behaviour towards treatment.

OBJECTIVES
This study aimed at evaluating the levels of adherence and acceptance of patients with multiple sclerosis (MS) in real life using a European patient online community.

METHODS
Study design
• An observational, cross-sectional study was conducted through the French, English, German, Spanish and Italian Carenity platforms between Oct 2015 and Feb 2016.
• The Carenity platform is a global online patient community in which both patients and caregivers, concerned by a chronic disease, can share their experience, find basic tools for health follow-up and contribute to medical research by participating in online RWE studies.
• Patients included in this analysis were adult patients suffering from MS and currently receiving treatment.

Assessments
All patients connecting to the Carenity platform were invited to complete an online questionnaire including:
• Questions on demographies, chronic disease and medication.
• The Acceptance by the Patients of their Treatment (ACCEPT®) questionnaire:
  • a 25 items covering six dimensions corresponding to treatment attributes.
  • Scores range from 0 to 100 with higher score indicating greater acceptance.
• The Morisky Medication Adherence Scale (MMAS-8):
  • A 8-item scale with a score ranging from 0 to 6 with the following interpretation: 0 to <6 (low adherence), 6 to <8 (moderate adherence) and ≥ 8 (high adherence).

Statistical analysis
• Descriptive statistics were used to describe the patient population and the ACCEPT® and MMAS-8 scores.
• The distribution of adherence and acceptance scores across MS treatments was analysed.
• Pearson correlations between the Acceptance General score, MMAS-8 adherence score and ACCEPT® treatment-attributes scores were calculated.

RESULTS
Population (Figure 1 and Table 1)
• 542 MS patients were included in the analysis, 152 took immunostimulants, 219 took immunosuppressants, 15 took another MS treatment and 156 took another central nervous system (CNS) treatment.
• On the study, we focused on two treatments: immunostimulants and immunosuppressants.

Population (Figure 1 and Table 1)

Table 1: Description of the patient population (N=371)

<table>
<thead>
<tr>
<th>Treatment attributes</th>
<th>Immunostimulants (N=152)</th>
<th>Immunosuppressants (N=219)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender, male [%]</td>
<td>58 [38.5]</td>
<td>51 [23.7]</td>
</tr>
<tr>
<td>Age, years, mean [SD]</td>
<td>46.3 [11.4]</td>
<td>44.9 [11.2]</td>
</tr>
<tr>
<td>≥ 10 years since diagnosis [%]</td>
<td>67 [44.1]</td>
<td>100 [45.7]</td>
</tr>
</tbody>
</table>
| Acceptance/Side Effects [62.1] | for immunostimulant-treated patients
| Acceptance/Effectiveness [40.9] | for immunostimulant-treated patients

Level of adherence (Figure 2)
• Mean MMAS-8 adherence score was between 6 and 7, indicating that MS patients adhere moderately to their treatment.
• There was a significant relationship between treatment class and adherence: patients taking immunosuppressants were more adherent than those taking immunostimulants.

Table 2: Pearson Correlations* between ACCEPT and MMAS-8 scores in Multiple Sclerosis Patients (N = 386)

<table>
<thead>
<tr>
<th>Treatment attributes</th>
<th>Adherence Score</th>
<th>R = 0.20</th>
<th>R = 0.22</th>
<th>R = 0.26</th>
<th>R = 0.20</th>
<th>R = 0.16</th>
<th>R = 0.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunostimulants</td>
<td></td>
<td>.05</td>
<td>.08</td>
<td>.13</td>
<td>.07</td>
<td>.00</td>
<td>.14</td>
</tr>
<tr>
<td>Immunosuppressants</td>
<td></td>
<td>.17</td>
<td>.22</td>
<td>.26</td>
<td>.20</td>
<td>.08</td>
<td>.25</td>
</tr>
<tr>
<td>Immunostimulants</td>
<td></td>
<td>.05</td>
<td>.08</td>
<td>.13</td>
<td>.07</td>
<td>.00</td>
<td>.14</td>
</tr>
<tr>
<td>Immunosuppressants</td>
<td></td>
<td>.17</td>
<td>.22</td>
<td>.26</td>
<td>.20</td>
<td>.08</td>
<td>.25</td>
</tr>
</tbody>
</table>

CONCLUSIONS
• Adherence scores were moderate and the class of treatment had a significant effect.
  • Patients taking immunosuppressants were more adherent to treatment than those taking immunostimulants.
  • General Acceptance was low and far from ideal:
    • General Acceptance level was higher in patients receiving immunosuppressants than in patients receiving immunostimulants and difference was close to be significant.
  • Immunostimulant-treated patients had better scores than immunosuppressant-treated patients in Acceptance/Medication inconvenience, Long-Term, Regimen constraints dimensions.
• Many patients reported an issue with time needed for treatment to be beneficial.
• Routine treatment was not an issue per se — all patients are used to their treatment — but having to take their medication for the rest of their life was an issue for all patients.
• Side effects were issues for both groups, but not for same reasons:
  • Long-term risk was the issue for patients taking immunosuppressants.
  • Current experience of unpleasant side effects was the issue for patients taking immunostimulants.
• Acceptance and Adherence are two related but different constructs:
  • In MS, general acceptance was driven by efficacy, while current adherence was driven by regimen constraints.

REFERENCES
1. de Bock E et al. ISPOR. 19th Annual European Congress, 2016

Acknowledgements
The authors thank all patients who participated in this study.