Orthostatic light-headedness associated with orthostatic hypotension (OH) is one of many symptoms that occur in patients with Parkinson’s disease (PD) as a result of autonomic dysfunction. Dysautonomia may herald the onset of PD even before motor symptoms become manifest and, along with other non-motor features, is gradually and seriously impact the Health-Related Quality of Life (HRQoL). The presence of OH in patients with PD has been associated with increased postural awareness and falls. Despite the disabling nature of OH, its frequency in patients with PD is not known and previous estimates of the prevalence have varied considerably. The objective of this study is to determine the prevalence of symptomatic OH in patients with PD and atypical parkinsonism attending a specialty clinic, and to evaluate risk factors for symptomatic OH in this population.

METHODS
The medical records of 1,318 patients, diagnosed with PD or atypical parkinsonism (PSP, CBD, MSA, Vascular PD, and other forms), who were evaluated between October 2009 and October 2010, were reviewed for:

• Gender
• Age
• Symptoms of Orthostatic Hypotension
• Duration of PD Symptoms
• Hoehn and Yahr stage (H&Y)
• Anti-hypertensive Medication use
• Blood pressure (BP) measurements
• Use of medications used to treat OH, including midodrine, fludrocortisone, and the investigational drug L-3,4-dihydroxyphenylserine (L-DOPA) injection
• Total daily levodopa equivalent doses, based on published guidelines
• Relevant co-morbidities such as the presence of hypertension, diabetes mellitus, and cardiovascular risk factors

RESULTS
Prevalence of OH was frequent among Parkinsonian patients attending a specialized clinic, present in 18% of PD patients, 19% of patients with non-MSA atypical parkinsonism, and in 81% of patients with MSA.

Table 1: Prevalence of OH in PD and Atypical parkinsonism

<table>
<thead>
<tr>
<th>Diagnosis (N)</th>
<th>Symptomatic OH (%)</th>
<th>No Symptomatic OH (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idiopathic PD (112)</td>
<td>18 (82)</td>
<td>94 (85)</td>
</tr>
<tr>
<td>MSA (30)</td>
<td>8 (27)</td>
<td>22 (73)</td>
</tr>
<tr>
<td>DLB (35)</td>
<td>21 (60)</td>
<td>14 (40)</td>
</tr>
<tr>
<td>6R (100)</td>
<td>63 (63)</td>
<td>37 (37)</td>
</tr>
<tr>
<td>Other (12)</td>
<td>7 (67)</td>
<td>5 (33)</td>
</tr>
<tr>
<td>PSP (26)</td>
<td>11 (42)</td>
<td>15 (58)</td>
</tr>
</tbody>
</table>

The PRIAMO study reported the occurrence of postural symptoms due to OH in MSA to be 54.6%. The frequency of postural symptoms in other atypical parkinsonism syndromes varied from 0 in CBD, 13.3% in PSP, 18.3% in VP, to 98.8% in MSA. Our findings are consistent with the published estimates of OH in PD ranging between 14% and 47% with the frequency increasing to 48% of patients with advanced disease. The overall prevalence of OH has been reported to be as high as 58.2% in one study. The findings of an association between greater sitting systolic BP variation and the presence of symptomatic OH has not been previously reported. We considered whether this wide range in systolic BP occurrence by chance, as a function of having more BP recordings in a patient who has a longer duration of follow-up, and therefore more advanced disease.

To address this issue, we analyzed the length of attendance at our center as a correlation with the systolic blood pressure range. We found that, independent of duration of follow-up, a greater systolic BP range was still associated with the presence of symptomatic OH. This new finding suggests that the autonomic dysfunction underlying OH may be reflected by greater systolic BP variation, as measured repeatedly by sitting BP readings.

Four studies have examined the prevalence of OH in patients with atypical parkinsonism. The PRIAMO study reported the occurrence of postural symptoms due to OH in MSA to be 54.6%. The frequency of postural symptoms in other atypical parkinsonism syndromes varied from 0 in CBD, 13.3% in PSP, 18.3% in VP, to 98.8% in MSA.

The reported relative frequencies of symptomatic hypotension in each category of atypical parkinsonism is similar to those in our study and the PRIAMO study. Although the small sample sizes limit definitive conclusions, both studies found that the frequencies of OH symptoms increased in the following ascending order: CBD < PSP < VP < DLB < MSA.

REFERENCES