Introduction

• Patients with uncomplicated BPPV do not require long appointments for balance assessment.
• Clinic time can be saved by identifying uncomplicated BPPV prior to booking and using shorter appointments.1
• Previous studies have shown success in identifying BPPV using subsets of questions from the Dizziness Handicap Inventory (DHI). 2,3
• Pre-appointment screening offers the potential to stream patients into more efficient pathways.

Methods

• The questionnaire used in this study comprised the 10-item short-form DHI (S-DHI)4 and five questions from the DHI that ask about BPPV symptoms.2,3
• The questionnaire was posted to 200 patients as part of a waiting list validation letter. Patients completed the questionnaire at home using either a paper form or an online form (QuestionPro.com).
• A prompt letter was sent if there was no response.
• The response rates are shown in figure 1.
• The questionnaires were scored the same as the DHI:

No=0; Sometimes=2; Yes=4

Pre-Appointment Screening Criteria

• The S-DHI was included to identify patients with multifactorial imbalance, unsuited to a short appointment.
• While these patients scored highly on the BPPV questions, they also scored very highly on the S-DHI.
• High S-DHI scores were associated with additional health problems, such as:

- endometriosis
- migraine
- diabetes
- poor health
- Arnold Chiari
- intracranial hypertension
- neuralgia dystonia
- PTSD
- epilepsy
- head injury

Table 1: Most effective screening criteria

<table>
<thead>
<tr>
<th>BPPV score more than</th>
<th>S-DHI score less than</th>
<th>% Positive Predictive Value*</th>
<th>% of Patients Meet Criteria**</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>30</td>
<td>100</td>
<td>19</td>
</tr>
<tr>
<td>10</td>
<td>30</td>
<td>96</td>
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<td>10</td>
<td>32</td>
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</tr>
<tr>
<td>10</td>
<td>34</td>
<td>86</td>
<td>48</td>
</tr>
</tbody>
</table>

*For patients whose scores matched these criteria, this is the percentage who had BPPV as their main diagnosis in clinic.
**This is the percentage of balance patients who will be booked for a shorter appointment if we use these criteria in practice.

Summary

• A 4-item DHI subset was found to be the most effective at predicting a positive test for BPPV. This comprised DHI questions:
  1 (looking up)  5 (getting in and out of bed)  13 (turning over in bed)  25 (bending over)
• Combining this subset of DHI BPPV questions with the 10-item S-DHI was an effective pre-appointment tool for identifying uncomplicated BPPV.
• Positive predictive value up to 100% was possible.
• When choosing criteria to use in practice, there is a trade-off between positive predictive value and the number of patients potentially streamed into a shorter appointment (BPPV pathway).

References

1) Beckerman M L. The ASHA Leader. 2016; 21; 11
2) Whitney, S L et al. Otology & Neurotology. 2005; 26; 5; 1027-1033
4) Van Vugt, V A et al. Journal of Clinical Epidemiology. 2020;126; 56-64