Self-reported hypoglycaemia: a global study of 24 countries with 27,585 insulin-treated patients with diabetes: Results from the German HAT population

Introduction

• Most reports of hypoglycaemia derive from observational studies regarding rate of hypoglycaemia in clinical practice
• Prospective studies have reported a frequency of 3–7% worldwide for T1D and 1–3% for T2D
• The analysis presents data from the German population
• Predictors and contributing factors to hypoglycaemia risk were also explored

Materials and methods

• Study design:
  - 24 countries
  - Retrospective, 6-months and 1-month prospective study

• Study population:
  - Consecutive eligible patients were enrolled during a routinely scheduled clinical visit
  - Both insulin-treated T1D and T2D patients

• Study objectives:
  - To determine the extent of hypoglycaemia experienced in a global insulin-treated patient population
  - To determine factors contributing to hypoglycaemia risk

Self-reported hypoglycaemia: a global study of 24 countries with 27,585 insulin-treated patients with diabetes: Results from the German HAT population

Study population

• Secondary endpoints included:
  - Relationship between hypoglycaemia and predictor or continuous factors such as age, gender, duration of insulin use or HbA1c

Study population

• Consecutive eligible patients were enrolled during a routinely scheduled clinical visit with their healthcare provider

Characteristics of patient population

• Experiences hypoglycaemia, n (%)
  - Tested 2015: 2015.2 (n=648) – Tested 2016.2 (n=1423)

• Baseline demographic and treatment information, knowledge, and awareness

Hypoglycaemia classification

• Overall hypoglycaemia frequency
  - For this analysis, hypoglycaemia was defined as any event requiring treatment or assistance

Overall hypoglycaemia frequency

• Proportion and retrospective hypoglycaemia incidence and prevalence are shown in Table 2

Table 2: Hypoglycaemia incidence and prevalence in retrospective and prospective periods

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Tested 2015</th>
<th>Tested 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any hypoglycaemia (%)</td>
<td>50.0 11.2 80.3 15.6</td>
<td>2.4 2.0 20.0 6.0</td>
</tr>
<tr>
<td>Severe (%)</td>
<td>8.0 3.4 12.0 3.6</td>
<td>1.2 1.0 2.0 0.6</td>
</tr>
<tr>
<td>Nocturnal (%)</td>
<td>42.8 22.8 70.3 59.1</td>
<td></td>
</tr>
<tr>
<td>Hospital admission (%)</td>
<td>1.2 0.6 2.0 1.0</td>
<td></td>
</tr>
<tr>
<td>Any hypoglycaemia, events per patient year</td>
<td>1.2 0.6 2.0 1.0</td>
<td></td>
</tr>
<tr>
<td>Hypoglycaemia prevalence, % of patients</td>
<td>50.0 11.2 80.3 15.6</td>
<td></td>
</tr>
</tbody>
</table>

• Hypoglycaemia unawareness was specifically those who occasionally never have symptoms with low blood glucose measurement – were less likely to report any duration of any hypoglycaemic event (IRR 0.67, 95% CI 0.52, 0.86)

References


Conclusions

• This large retrospective and prospective study determined the extent of hypoglycaemia experienced by insulin-treated T1D and T2D patients in the German population

Estimated rates of overall, nocturnal and severe hypoglycaemia were higher than previously reported1–6

An increased incidence of overall hypoglycaemia in the prospective study compared to the retrospective reports indicated under-reporting of hypoglycaemia

There were no strong associations between hypoglycaemia and the predictor variables studied

These findings highlight the need for clinicians to tailor insulin treatment to individual patients with diabetes