The association of hypoglycaemia severity and economic outcomes among patients with type 2 diabetes mellitus using basal insulin

Lulu Lee1, Hongwei Wang1, Liuye Tong1, Shalloo Gupta2, Ron Preblick3, Luigi Meneghini1

1Kantar Health, Foster City, CA, USA; 2Sanofi, Bridgewater, NJ, USA; 3Kantar Health, Princeton, NJ, USA; 4University of Texas Southwest Medical Center and Parkland Health & Hospital System, Dallas, TX, USA

INTRODUCTION

- Hypoglycaemia can reduce health-related quality of life, increase healthcare utilisation and costs and result in reduced productivity among patients with type 2 diabetes mellitus (T2DM).
- The treatment goal for people with diabetes is to achieve and maintain glycated haemoglobin (HbA1c) within target ranges.
- The economic impact of hypoglycaemia is not well understood, particularly in real-world settings.
- We used data from eligible respondents who had T2DM and were using basal insulin (BI).

METHODS

- In the 2011 and 2015 National Health and Wellness Surveys (NHS), a random national, cross-sectional, non-clinical survey of a non-subsampling frames representative of the US adult (aged ≥18 years) population.
- A total of 242 patients were included in the study.
- Patients were categorised as having no hypoglycaemia, non-severe hypoglycaemia or severe hypoglycaemia.
- Hypoglycaemia severity was determined using the Work Productivity and Activity Impairment (WPAI) Scale.
- The data were obtained from 242 respondents eligible for the survey.

OBJECTIVE

To assess whether economic outcomes (productivity, healthcare utilisation and costs - both direct and indirect) differed by hypoglycaemia severity among patients with T2DM receiving BI in the US.

RESULTS

- A total of 242 patients were included in the study.
- Patients were categorised as having no hypoglycaemia, non-severe hypoglycaemia or severe hypoglycaemia.
- Hypoglycaemia severity was determined using the Work Productivity and Activity Impairment (WPAI) Scale.
- The data were obtained from 242 respondents eligible for the survey.

Patient characteristics by hypoglycaemia severity:

- Patients with severe hypoglycaemia were younger than those with no hypoglycaemia (p = 0.034).
- In addition, those reporting severe hypoglycaemia were more likely to have had lower HbA1c levels than those with no hypoglycaemia (p < 0.001).

Economic outcomes stratified by hypoglycaemia severity:

- Patients with non-severe hypoglycaemia had greater numbers of doctor visits but fewer ER visits and hospitalisations compared to those with no hypoglycaemia.
- Patients with severe hypoglycaemia had higher costs compared to those with no hypoglycaemia.

CONCLUSIONS

Patients with non-severe hypoglycaemia had greater numbers of doctor visits but fewer ER visits and hospitalisations compared to those with no hypoglycaemia.

STRENGTHS AND LIMITATIONS

- The study was conducted using data from the NHS, a national, non-clinical survey of the US adult population.
- The results are generalisable to the general population of adults in the US.

SUMMARY

Patients with non-severe hypoglycaemia had higher HbA1c, was that those with non-severe events. This is likely related to the common belief that hypoglycaemia severity is associated with low HbA1c, despite evidence of severe events that may have been observed in clinical trials.

- Concomitant medication, %
- Concomitant medication, %
- Concomitant medication, %
- Concomitant medication, %

- Non-severe hypoglycaemia refers to self-managed events; severe hypoglycaemia refers to events that required third-party assistance.

- Of note is the higher rate of hypoglycaemia reported in this real-world setting versus randomised controlled trials.

- Our study used data from the NHS, a national, non-clinical survey of the US adult population.

- The results are generalisable to the general population of adults in the US.