Reviewer’s report

Title: Hypoglycaemic events in Patients with Type 2 Diabetes in the United Kingdom: Associations with Patient-Reported Outcomes and Self-Reported HbA1c

Version: 3 Date: 6 October 2013

Reviewer: John Zrebiec

Reviewer’s report:

This is an important subject that has been extensively discussed in regard to type 1 diabetes, but relatively few studies have focused on type 2 diabetes. It’s importance is underlined by the National Job Analyses of Certified Diabetes Educators (CDE’s), conducted every 5 years by the National Certification Board for Diabetes Educators in the United States. Consistently, CDE’s rank teaching patients about preventing and treating hypoglycemia as their #1 priority. My guess is that if a similar survey were conducted in the United Kingdom, the results would mirror those in the U.S.

This manuscript is very well-written with research objectives that are well-defined. The data that the authors attempted to capture seemed pertinent and specific to the research questions they proposed to study. The paper itself is thoughtful and well-organized. I thought the authors described the limitations of the study (p16) quite straightforwardly, including that the data is based upon self-report. The reference list is solid and the tables are well-presented and easy-to-understand. There are no major compulsory revisions needed, but there are some discretionary explanations that might be considered based upon the following comments.

There are a few spelling and grammatical errors that I assume the authors will correct, but if needed, I can point them out. The most troublesome one was the term “impaired patient reported outcomes.” The wording makes it difficult to understand whether it is the patient that is impaired or the outcomes are impaired?

It was unclear whether the Light Speed chronic ailment panel received a fee for participation in that panel which might potentially affect their response? The authors note that only 34% of the baseline sample completed the last follow-up and only 9% completed all follow-up (p6). If my calculations are correct that is 604 and 160 respondents, respectively. I would suggest including these numbers in addition to the percentage, rather than force readers to do the math.

Household jobs and shopping were noted to be the most common circumstance (22.1%) for HE (p12), and this finding might be highlighted again in the discussion because the majority of health care professionals believe that the most common reason is exercise.
Predictably, adherence to insulin was significantly lower among those experiencing HE, but only marginally lower with adherence to oral medication (p13). In the discussion, I would like to hear the author’s hypothesis for the difference between the treatment groups. Those who had experienced HE were noted to have “a greater likelihood of reporting behaviors that would raise their blood glucose levels” (p14). However, there was not any specific description of what those primary behaviors were and that was the most frustratingly missing piece in the paper.

I think your assumption at the bottom of page 15 that “those who experience HEs would be expected to adjust their regimen to prevent HEs, raising their HbA1c in the process” overlooks complex variables. For example, this reviewer conducts a specialty program about preventing severe hypoglycemia and the majority of patients with long-standing diabetes were historically indoctrinated to keep their BG as low as possible in order to avoid long-term complications from the disease, and will tolerate significant low BG rather than run higher. Of course, your sample only had a mean duration of 9.6 years with diabetes.

The paper raises many questions that are worthy of further study, including how come 27.7% did not test blood glucose during an HE? How is it that 5.5% rated a normal blood glucose reading as an HE? How did 13.2% explain the HE as caused by stress rather than behavior? Are fears of hypoglycemia different between those who self-managed episodes versus those who required assistance from others?

Congratulations, I look forward to reading the article in print.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.