Author’s response to reviews

Title: Patients' and caregivers' experiences of using continuous glucose monitoring to support diabetes self-management: qualitative study

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Author’s response to reviews:

Many thanks for sending our paper out for review. We are extremely grateful to the two reviewers for their helpful and positive comments. Below, we have outlined how we have addressed the all of the points raised by the reviewers.

Nick Oliver (Reviewer 1): Many thanks for asking me to review this manuscript entitled 'Patients' and caregivers' experiences of using continuous glucose monitoring to support diabetes self-management: qualitative study'. The study aimed to explore participants' experiences of using CGM in order to provide recommendations to supporting individuals to make optimal use of technology. The conclusions are interesting but will not surprise clinicians or people with diabetes with CGM experience. It is a well written manuscript and reflects in-depth interviews but requires some further details and discussion as follows:
Many thanks indeed for this positive feedback and for your constructive and helpful comments.

The study is detailed but small and focusses on participants in a closed loop insulin delivery study. Some baseline demographics are presented but HbA1c and duration of diabetes are not provided. These are required to contextualise the data - closed loop studies rarely recruit a representative sample of people with T1DM.

Response: We are unable to report participants’ baseline HbA1c data as these data will not be available till later this year when the main trial results are published. However, in the manuscript we do specify that all participants had a screening HbA1c ≥7.5% (58.5mmol/mol) and ≤10% (86mmol/mol) (see page 4, lines 3-4), and we believe this information should be sufficient for readers to contextualise our interview data. We have added information about participants’ diabetes duration to table 1 (p22) and we have specified in the main body of the text that, to be eligible for the trial from which we drew our sample, participants needed to have a diabetes duration of at least 6 months (see page 4, line 4).

It is also important to report the CGM device used and the sensor wear time for the period analysed, either for individual participants or by age group.

Response: Information about the CGM device used is provided on page 4, line 11. We have added in information about sensor wear time to Table 1 (page 22)

In order to understand the results it is critical to know what the participants were taught about the use of CGM? Did they have standardised education at the start of the CGM period? Were they given written information? Did they use the device non-adjunctively? Were the alarm settings standardised? Did caregivers routinely follow their children's data remotely?

Response: We have added in Information about the training participants received (see page 4, lines 11-15). In the revised manuscript, we also specify that the CGM device was used nonadjunctively (see page 3, line 20). We now also specify that alarm settings were initially standardized but that participants could adjust them during the study and that parents were unable to access their child’s data remotely (see page 4, lines 15-17).

In discussing the need for education the authors may wish to refer to the very simple rules given to participants in the DIAMOND study.

Response: Unfortunately, despite considerable effort, we have been unable to locate the rules to which the reviewer refers. Papers from the DIAMOND study published in JAMA and the Lancet refer to guidelines issued to participants using CGM and both include the study protocol as supplemental material (https://jamanetwork.com/journals/jama/fullarticle/2598770). The study protocol (p7) does refer to the guidelines: “Throughout the course of the study, subjects using CGM will be encouraged to follow diabetes management guidelines (Appendix F, Diabetes Management Guidelines Using CGM).” However, neither of the papers which include the protocol also include Appendix F, other than as an embedded file which cannot be opened. As we cannot access the rules (and, hence, assume readers of our paper will encounter the same
problem) and the reviewer has presented their suggestion as an optional ("may wish") revision, we have kept the text in the discussion as it is.

The authors discuss the limitations but do not explicitly note that their study only recruited people using insulin pumps and the findings may not be generalizable to people using MDI. It's also worth explicitly noting the age distribution heavily favours those aged 31-40.

Response: Many thanks for pointing this out to us -- we have now added these additional limitations to our study into our discussion (see page 16, lines 19-20 and page 17, lines 3-5)

Helmuth Martin Borkenstein, M.D. (Reviewer 2): This an interesting study dealing with the patients as well as the caregivers findings and experiences of CGM to support diabetes self management.

The data could be of help for the medical team in an attempt to provide better information and training.

However the number of the participants is quite small, and the availability of data and material is limited. Most of the results given are personal statements of the participants, e.g. 'it is so much easier', 'I don't panic so much', and we don't know how many of the participants do think so.

Language is perfect,

Literature is very helpful.

Response: Many thanks for these positive comments. Please be assured that the sample size is more than sufficient for robust and responsible reporting of qualitative data. Please also be assured that using participant quotes in the ways we have done is the standard and expected way to report qualitative data.