Reviewer’s report

Title: Reasons of general practitioners for non-treatment of younger and older patients with newly diagnosed type 2 diabetes mellitus in the United Kingdom: A survey study

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Reviewer: Petra Denig

Reviewer's report:

This is an interesting subject, since we have limited insight in patient-age effects on treatment decisions.

Major points:

1. Maybe I misunderstood but from the methods/results it seems that the age selection (<65 or >65) was not made at the time of the diagnosis. This should have been the criterion since the aim is to understand reasons for not initiating therapy in younger and older patients with NEWLY diagnosed type 2 diabetes. By selecting patients on their age at some arbitrary later point gives a time-biased population. The older patients have a longer duration of diabetes, and were consequently partly also younger (<65) when they were diagnosed. This should be corrected and groups should be compared based on their age at diagnosis.

2. It is stated in the Discussion that ‘Older patients in this study were more likely to have pre-existing microvascular and cardiovascular conditions, which appeared to impact the GPs’ decisions on treatment’. It seems that the time-bias (see above) interferes with making such statements. The data were collected at a later point: ‘The following data were abstracted from the patient’s charts: demographics, comorbidities, medication use, laboratory measurements, and vital signs’ so I assume that comorbidity was not necessarily pre-existing but could have started after the diagnosis T2DM?

3. The GPs originated from the Kantar Health Physician Panel from which a random sample was invited to take part in the survey. It is, however, not clear how many participated in the Panel and whether this constitutes a selected GP population. Next, 358 of the eligible GP participated but how many were eligible (response rate). Possible selection bias should be discussed!

4. A comprehensive list of 36 possible reasons for non-treatment with antihyperglycaemic agents was provided to GPs. Where did this list come from? Any validation or support that it is a comprehensive list? How was the grouping made? I was surprised by, for example, finding risk of side effects in the Comorbidility/polyparmacy and not in Factors related to antihyperglycaemic agents. Similar, why is cognitive burden not in the Patient-Related Reasons instead of drug related factors. Please reconsider the categories and explain the
methods used for this categorisation.

Minor essential points:

5. I find the question posed not clear: ‘in younger and older patients’ may suggest that there is also a middle category of patients (not young and not old). It would be helpful to include the age cutpoint in the question.

6. Could the authors also provide some underpinning for their choice of the 65-year cutpoint?

7. More attention should be given to the current debate on age and (less) intensive treatment in the introduction. Only in the discussion it is stated that NICE recommends treatment targets between 6.5% and 7.5% depending on the extent of pre-existing comorbid conditions and agreement with the patient. This is quite essential for this study!

8. GPs documented relevant patient data via the internet using an electronic data capture form. As I understand, this implies that the GPs self-selected and self-reported the data. Was there any validation that these were random patients and that the data abstraction reports were complete & correct? If not, this should be at least be discussed as limitation.

9. In the results it is stated ‘The proportion of patients with their most recent HbA1c measurement above their GP-reported HbA1c threshold was higher (p=0.002) in the younger patients (14.3%) compared to the older patients (10.4%).’ A finding which is also discussed. This seems, however, a skewed comparison since the threshold was for initiating therapy and not for intensifying therapy.


Also, there have been several studies looking at factors explaining ‘clinical inertia’. Again, from my own group for example: Voorham J, et al. Cardiometabolic treatment decisions in patients with type 2 diabetes: the role of repeated measurements and medication burden. Qual Saf Health Care 2010 Oct;19(5):411-5. But also other publications on this issue. See also recent editorial in JAMA on clinical inertia.

Discretionary Revisions

11. I find the discussion a bit disorganized, and not always to the point. I would prefer: first the main findings (answering the research question) and then how these findings relate to previous findings (what is new, what is confirming previous findings, what is in disagreement?). This is now somewhat scattered over several paragraphs and mixed with discussing additional findings which
were not included in the main research question.

The beginning of the discussion could better be integrated with the introduction. This is not discussing the results from this study. Also, the repetition of detailed results in the discussion not helpful/needed.

12. The focus of the conclusion is on safety but also patients burden/comorbidity is seen as a problem. This could be better acknowledged.

13. There is a partial update on the NICE guideline 66 (guideline 87) – update for reference 3.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**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 interest.