Reviewer’s report

Title: Socio-demographic determinants and effect of structured personal diabetes care: a 19-year follow-up of the randomized controlled study Diabetes Care in General Practice (DCGP)

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Reviewer: Hung-Yuan Li

Reviewer's report:

The manuscript by Andreas Heltberg et al. studied the interaction effect of socio-demographic factors on the effect of structured personal diabetes care using data from a randomized trial DCGP. They found that the effect of intervention was modified by the residence. Patients in urban areas showed better response of any diabetes-related endpoints to intervention, compared with patients in rural areas. However, they did not found any interaction effect of these socio-demographic factors over intervention in terms of cardiovascular risk factors, behavior, attitudes and process-of-care.

Overall, the manuscript discussed an interesting question, and the analyses were done in a good way. However, many of the interpretation on their data is not based on the results of statistical tests, and the main positive finding cannot be supported by the other negative findings (see point 1). Besides, the study was done since 1988, which is a long time ago and many things change, including socio-demographic characteristics. Therefore, the findings may not be applied nowadays.

Specific points:

1. The main positive finding was that the effect of intervention on any diabetes-related endpoint was modified by residence area. However, residence area did not show significant interaction effect on cardiovascular risk factors, such as BMI, systolic blood pressure, HbA1c, total cholesterol and micro- or proteinuria, nor patient attitudes, motivation, behavior, diabetes-related consultations/year (Table 3). The authors should discuss how to reconcile these findings.

2. Following point 1, the authors described in Discussion (page 12) that the effect of residence area by be explained by the lower uptake of the intervention and the lower compliance with the intervention. The authors should provide data to support their points if the data are available.

4. Results: page 10, line 2. Overall patients living alone or …… (Figure 2). However, living alone or now was not analyzed in Figure 2. Please explain or revise.

5. Please do statistical tests to compare survival or diabetes-related outcomes in the 4 groups in Figure 2 & Figure 3.

6. Please provide definition of basic and higher education in legends of Figure 2 & footnote of Table 2.

7. Figure 2, the color for some lines are different from the color in caption.

8. Table 2: the footnote is confusing, esp. for e & f. Besides, when reporting HR, please describe which group was the reference group (HR=1).

9. Discussion: page 11, line 1-3. The authors described that the effect showed a statically non-significant tendency to be more pronounced among patients with …… However, based on the results in Table 2. The p values for these interaction terms were not significant or even borderline significant (0.05-0.10). So the interpretation is not correct.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable


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