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Letter to the Editor

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Letter to the Editor

Comment on Du Q, Wu B, Wang YJ, *et al*. Comparative effects of sitagliptin and metformin in patients with type 2 diabetes mellitus: a meta-analysis. Curr Med Res Opin 2013;29:1487-94

Dear Editor,

Recently, we read with great interest the article by Du *et al*.[1] entitled 'Comparative effects of sitagliptin and metformin in patients with type 2 diabetes mellitus: a meta-analysis' published in Nov 2013 in *Curr Med Res Opin*. In this meta-analysis, the authors compared the clinical effectiveness of sitagliptin with metformin in type 2 diabetes mellitus. It is an interesting study. Nevertheless, we have several queries which we would like to communicate to the authors.

(1) The authors reported that the heterogeneity of the included studies was evaluated with a chi-square test. When no significant difference was noted in heterogeneity evaluation, meta-analysis was performed with a fixed effect model. But the authors used a random effect model in Figure 2 ($P = 0.029$, $I^2 = 57\%$), meanwhile using a fixed effect model in Figure 3A ($P = 0.131$, $I^2 = 39.1\%$) and Figure 5A ($P = 0.152$, $I^2 = 46.9\%$). So we want to know when to use a random effect model, $P < 0.05$ or $P < 0.1$ or $I^2 > 50\%$? As we know, different effect models may result in different results.

(2) The authors reported that two independent authors determined whether or not these trials met the inclusion criteria. We would like to know how to solve the problems if there are discrepancies between the two authors.

(3) The paper reported "the exclusion criteria were as follows:" but it did not report any exclusion criteria in the paper. Therefore, we want to know the exclusion criteria.

(4) The methodological quality of included trials was not assessed by Jadad scale or otherwise. We suggest that the authors should evaluate the methodological quality of the selected studies, which can avoid potential bias in the meta-analysis.

(5) It is not sufficient that publication bias was not assessed, which may be present, distorting the meta-analysis.

We agree with the following conclusions of the authors: both drugs have comparable abilities in reducing HbA1c, decreasing body weight, and improving the function of β cells, but sitagliptin is inferior to metformin in improving insulin sensitivity. This may provide the needed evidence for the clinical application of sitagliptin. More multicenter RCTs with a large sample size and long-term follow-up are required, especially evaluating the influence of sitagliptin on dynamic blood glucose, body weight, and side effects.

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Transparency

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Reference

1. Du Q, Wu B, Wang YJ, et al. Comparative effects of sitagliptin and metformin in patients with type 2 diabetes mellitus: a meta-analysis. Curr Med Res Opin 2013;29:1487-94