Author's response to reviews

Title: Area deprivation and the prevalence of type 2 diabetes and obesity. Analysis at the municipality level in Germany

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Author's response to reviews: see over
Dear Editor,

We would like to thank you and both Reviewers for the positive feedback we have received and for the very helpful comments and all the time spent on our manuscript. Below, please find our point-by-point response to the reviewers’ comments according to your mail from 15th October 2014. The respective modifications in the manuscript are highlighted in yellow.

Unfortunately, during the revision of our manuscript we found a minor coding error. Consequently, we had to change some of our results (also highlighted in yellow). These changes did not alter our overall result and were only minimal. We apologise for this mistake and hope that this does not cause any inconvenience.

If there are any further questions, please do not hesitate to contact me.

With best regards,

Werner Maier

* Comment Reviewer 1:

The results need to be further explained: What does it mean that area level deprivation indicators are relevant for T2D and obesity beyond individual level indicators? What are the mechanisms behind it?

Authors’ response:

We have inserted additional information in the discussion section and changed the text as follows:

“Whereas individual SES may have a more direct influence on health (e.g. by providing individual financial or educational resources for a healthier lifestyle), area-level deprivation may act through a network of collective infrastructural resources such as resources for recreational activities, the availability of healthy food and medical care [15, 43]. Regional traditions can influence individual behavioural norms and attitudes and thus affect health behaviour [15, 44].”
“Prevention strategies should not focus only on the behaviour of people but also on the conditions in which they live. Considering area deprivation indicators when implementing prevention measures is essential in order to make them more effective.”

Comments Reviewer 1:
- The language needs some corrections.
- Quality of written English: Needs some language corrections before being published.

Authors’ response:
The manuscript has been reviewed thoroughly and checked again by a professional native English speaker.

Comment Reviewer 1:
Please check tense in the results section.

Authors’ response:
We have now changed the tense in the results section to past tense when describing the results.

Comment Reviewer 1:
I do not understand the last sentence of the first paragraph in the introduction ("and none of these studies covers the country named above as a whole"). Do you mean the studies were confined to certain regions?

Authors’ response:
We have now changed the text as follows:

“….and all of these studies were confined to specific regions of their countries.”
Comment Reviewer 1:

Page 6, line 10: I suggest to write "no T2D" instead of "no diabetes".

Authors’ response:

We have now changed “no diabetes” to “no T2D”.

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Comment Reviewer 2:

What was the purpose of the survey for data used for this manuscript? How was the sampling done?

Authors’ response:

We have now added the following information and two additional publications concerning the Healthcare Access Panel (new reference numbers 21 and 22) in the methods section (Study population):

“The HCAP was based on a large German household sample and was developed as an alternative to face-to-face or telephone health survey interviews in order to estimate the prevalence or incidence rates of health-relevant variables. The households were not randomly recruited; participation was voluntary. Underrepresented cells, e.g. age groups or regions, were complemented. More detailed information on the HCAP data has been described previously [21].”

Comment Reviewer 2:

The setting should be described briefly for the reader, that is: Germany population size, socio-economic levels - as this will give an idea to the reader about why other areas in the same country are deprived than the other. Some of this information appears for the first time in the discussions - such as small federal states. This information would be beneficial if it appeared in the background.
Authors’ response:

We have now added the following information including the reference for the data source in the methods section (Area deprivation):

“At that time, the total population of Germany was 82.3 million living in 16 federal states of varying population size (ranging from almost 0.7 to 18 million) and also differing in land area and economic power [30].”

Comment Reviewer 2:

The municipality and deprived regions need to be defined

Although the area of deprivation for the municipalities was assessed by the German Index of Multiple Deprivation it is not clear what the seven deprivation domains are under demographic, socioeconomic and environmental features.

For people who are not familiar with the subject, this information is incomplete.

Authors’ response:

We have now added two additional sentences concerning the deprivation domains of the GIMD and information on municipalities in Germany in the methods section (Area deprivation):

“The GIMD includes demographic, socioeconomic and environmental characteristics related to seven different domains of deprivation (i.e. income, employment, education, municipal revenue, social capital, environment, security) [14, 15].”

“Municipalities are the lowest level of administrative division in Germany and cover a wide range of population size, including small rural municipalities with less than 100 inhabitants up to cities with more than one million inhabitants such as Munich or Berlin [15].”