Reviewer’s report

Title: Prevalence, trends, patterns and associations of analgesic use in Germany

Version: 1

Date: 10 June 2015

Reviewer: Elena Enioutina

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In the modern world, where OTC analgesics are widely used by patients, understanding of what percentage of population in particular country, as well as worldwide, is using prescription, OTC, or OTC plus prescription analgesics and what categories of people use those analgesics is extremely important. It is especially important, since this analysis may identify reasons underlining potential adverse drug reactions to these drugs.

- Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

It seems authors were using appropriate statistical analysis techniques. I would like to get a comment on why did authors use logic regression and not relative risk regression?

- Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. Line 52. It would be nice to replace “important and valuable” with “indispensable” or “essential”

2. Line 56. It would be nice to replace “side effects” with “adverse drug reactions”

3. Lines 66-69. Please, edit sentence. Meaning of this sentence is not very clear.

4. Line 113. Word “preparation” should be replaced by “medication”.

- Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

My major difficulties with submitted manuscript were:

1. What is working hypothesis of this project? What authors were trying to prove? For example, population with low socio-economic status will have high exposure to overall analgesics, women use more than man because…. It is mostly important to answer question: “why do they do, what they do?”

I would like very much to see a discussion of possible reasons for use of analgesics by different categories of people in this manuscript, not just statement that German study is similar or different from what others have reported already.

2. Authors did not say clearly what the limitations of this study are. How representative sample study is compared German national healthcare system?

3. Line 44 and Conclusions. It feels like conclusion driven from this study is too generalized. Authors stated that conclusions has been drawn “based on
nationally representiative data”. Unless authors will prove that this study indeed represent majority of German population (e.g., this study sampled majority of German regions and significant percent of German residents was included to the study), you cannot make statement about country in whole: “about one in five adults in Germany use analgesics in a given week.”

4. Results. Lines 204-210. It would be nice, if authors will add data representing use of combination of analgesics to the table 3. Please, explain why particular combinations of analgesics were used by participants. Do you have fixed combinations of analgesics in Germany that can be prescribed or people can buy OTC?

5. Table 3. Authors have chosen youngest population, low socio-economic status, never-smokers as references for their data analysis. It is reasonable. What was the reason for choosing medium education status or up to 2 hrs. exercising people as a reference for data analysis?

**Level of interest:** An article of importance in its field

**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 interests.