Author's response to reviews

Title: Medication effectiveness may not be the major reason for accepting cardiovascular preventive medication: A population-based survey

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

With this cover letter, we will submit the revised manuscript (MS: 1328469253648893) entitled “Medication effectiveness may not be the major reason for accepting cardiovascular preventive medication: A population-based survey” for publication in BMC Medical Informatics & Decision Making. We would like to thank referees for the careful and constructive reviews. In details below we have addressed the comments from the referees, and when inquired made changes of the manuscript. The revised manuscript does not show the track changes. Please let us know if you need a version with the track changes as well.

Responses to the comments from Referee 1:
Methods:
1. In the autumn – please specify the exact months when the
We have specified timing in the text.
2. 100,000 DK present US$ write exchange rate used
Done.
3. What model diagnostics were used in determining which model to use and where any checks made for correlations or interactions?

We chose logistic regression modeling because the outcome variable “acceptance of medication” is binary. We chose independent variables that would be plausible predictors of the outcome. We have added information on model diagnostics in the text. We used non-parametric smoothing to assess linearity of the response variable on the log-odds scale with respect to continuous covariates. To build the model we had a priori established a list of covariates to include, but used the size of their estimated standard errors relative to the estimated effect size to judge both their impact and statistical significance. This was the case for both continuous and categorical covariates.

In response to this request, we have further assessed the presence of colinearity by means of correlation coefficients. The highest correlation was between “Household income” and “Age” ($r=-0.11$). We have also
tested for interactions and found none, although this may be consequence of the study not being powered for detecting this. We did however also not identify any trends or patterns, which although they were not statistically significant, could raise concerns about the presence of interactions.

Results:

4. Table 2 footnote should describe what was adjusted for in the model, describe the missing values

We have added footnotes in Tables 2, 3 and 4. Firstly, we performed a crude analysis for each of the independent variables followed by a multiple regression analysis estimating the effect of each independent variable after adjusting for the effects of the other variables. The variables in questions were medication effectiveness (ARR in percent), age, gender, duration of education, household income, living with a partner, personal experience with cardiovascular disease or risk factors as presence of one or more of the following conditions: previous stroke or heart attack, hypercholesterolemia, or hypertension, and whether the participant had experienced cardiovascular disease in the family or not.

An additional footnote describes the missing values when adjusting the analysis. A total of 981 of the 1,082 observations could be included in the adjusted analysis. These were complete observations, i.e. had data containing information on all variables for the individual observation used in the analysis. The exclusions of the remaining 101 observations (9.3%) were due to at least one of the independent variables having a missing value for these observations.

5. Table 3 & 4 were these run each as one model, did it include interactions terms or was one model run for each reason, if so please include the number of patients included in each of the 3 models

One model was run separately for each reason. The number of persons included in each of the models has been included in the headline of each column.

Responses to the comments from Referee 2:

General comment: The paper is interesting and well written. The main innovation lies in the usage of a big sample of patients for producing the models. On the other hand, the methods and techniques proposes do not present any novelty and I recommend the rejection of the paper. This paper could be submitted to a medical journal only and not this one.

We consider this paper to be well suited for BMC Medical Informatics and Decision Making. First, the study explores lay people’s decision making in the context of cardiovascular prevention. Second, there is little evidence on why people accept or reject treatment offers.

Responses to the comments from Referee 3:

General comments: The paper is has a very interesting concept that explains adherence issues I do not have any comments that are adverse, however with spread of multiculturalism cultural issues and language issues may also play a role in acceptance of medication.

We agree that cultural and language issues may play a role in acceptance of medication. Odense is a city with predominantly Danish population, but we have no information on ethnic background in the dataset. From
observations during the interviews, we suppose that a few respondents were non-Danish, while the great majority was Danish. We have added a sentence on the relevance of culture and language in the discussion.

We appreciate the comments from the referees. Thank you for reviewing our manuscript.

Yours sincerely,

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