Author's response to reviews

Title: Prescribed drugs use among first generation elderly immigrants in the Netherlands: more seems not enough

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

We thank the reviewers for their comments. We provide a detailed response for both reviewers separately.

The authors.

Reviewer 1
The question that the authors want to investigate is well defined. The objective of the study is to assess whether ethnicity explains the variation in the utilisation of prescribed drugs, focusing on underutilisation in ill subjects.

Remark 1
Abstract
The background section should include the objectives of the study. The last sentence of the background section “Utilisation is explained....” seems to be a conclusion. If the authors want to reflect the results of the study this sentence should be moved to the Conclusions section. If not, it should be the second sentence of the background paragraph.

Reply
We agree and adapted accordingly.

Remark 2
Methods section
The authors should include information about the Netherlands’ health system. Utilisation of health services and drug expenditure are associated with cost. Is the health system universal and free? Are there co-payments? Are prescribed drugs free in the Netherlands for old people? Do people aged 55-64 years pay the same as people aged 65 and older?

Reply
Dutch health care system has not changed in 7 years in terms of health care delivery. The Dutch health insurance system is characterized by a division between private health insurance and public (compulsory) health insurance for low income citizens [a maximum of €33.000 gross of taxes]. The great majority of members from immigrants groups belongs to the compulsory insured group; this is even more true for the elderly first generation members from immigrant groups who migrated to the Netherlands to carry out unqualified labour. Last decade the proportion of the population with compulsory health insurance (income dependent) decreased in favour of the proportion with income independent private health insurance. Co-payments are standard in private insurance schemes (level to be chosen). Currently, co-payments have also been introduced in the compulsory health insurance scheme, but at the time of data collection no co-payments were present. Prescribed drugs always have been fully covered by all insurance schemes (except for some co-payment). Regardless the income and nature of insurance scheme, taxes provide compensation for those having spent more than a defined amount of health care costs. It is now accepted that in the Netherlands the pattern of drug utilization for prescribed drugs - in particular for chronic diseases - is not different dependent on the type of health insurance and the level of co-payment, taking other factors into account, as the financial incentive has never been substantial.

Age differentiation of premiums is present, but all private insurance companies are now by law obliged to offer a basic package for all ages, with an age-independent premium. We included in paragraph conceptual model (enabling factors) the text: ‘Under the Dutch health insurance system, the great majority of immigrants - in particular the elderly - will fall
under the public compulsory scheme, which fully covers prescribed drugs and without at the
time of data collection copayment. Indigenous elderly will be covered more often by a private
insurance scheme, but last decade has shown that drug utilization is insensitive to the
current levels of copayment.

Remark 3
In the Data source and population section, at the end of first paragraph, it is said that equal
numbers of subjects per stratum were selected. But, at the beginning of the second
paragraph, the number of subjects in each group are different, especially Turkish (808) and
Moroccan (455) subjects. What explains these differences? Where there not enough
Moroccans in the census to be selected?

Reply
We thank the reviewer for pointing to this writing error. We intended to indicate equal
‘proportions’, not ‘numbers’. As this a standard approach, and to avoid confusion, we deleted
that part of the sentence.

Remark 4
The authors mention that the questions that belong to the acculturation block are validated.
Can they report a bibliographic reference or a study that supports this statement?

Reply
Yes, we added references 11 and 19. These questions were validated by the National
Institute of Social Research and further discussed in the conceptual section.

Remark 5
Also, the authors recode the scores obtained for some variables of the acculturation section
into three categories (poor, mediocre and good for mastery of Dutch language or traditional,
moderately traditional, or modern for attitudes regarding family care, male-female roles and
family values). How were the cut points of the categories decided?

Reply
We followed the recommendations of the National Institute of Social Research, which has
been set up previously, unrelated to our research.

Remark 6
It is not clear how the authors categorised individuals as having or not having mental health
conditions. The MSC ranges between 0-100. Did the authors choose a cutpoint? Is there a
recommended cutpoint for this instrument? I am not familiar with it.

Reply
Apparently the reviewer assumed we used the MCS to classify individuals requiring a
threshold. We, however, did not categorise individuals as having or not having mental health
conditions based on the MCS. We only categorised individuals as users or non-users of
drugs for mental health problems, based on self-report. The MCS score was used
unchanged (as interval variable) to predict drug utilization.

Remark 7
Results section
The first paragraph in the Analysis section states that the aim of the first analysis was to
explain drug utilisation for mental health and chronic conditions separately, including both
individuals with and without self-reported conditions. From Table 2, it seems that the
dependent variables are use of drugs for mental health (yes/no) and use of drugs for chronic
diseases (yes/no), respectively. It is not clear who are the 691 individuals included in this
analysis.
Reply
The 691 individuals have been selected on the basis of reporting to use drugs for a chronic or mental health problem, not selected on reporting on having a chronic disease of mental health problem. When reading the sentence: “including both individuals with and without self-reported conditions” we understand that it is not clear to the reader what we meant. Therefore, we deleted that part of the sentence.

Remark 8
Although the authors mention that in the second analysis the objective is to assess the variables associated with drug underutilisation, it is difficult to interpret the ORs of Table 3, since absence of underutilisation means presence of use. I think that it would be better to use presence/absence of drug utilisation in Table 3 and in the Results section.

Reply
We agree that the column headings in table 3 are confusing. In fact they do not represent drug use but underutilisation of drugs. This is changed in table 3. The key issue is that part of our analysis addresses the probability of a condition/disease among the population, and the other part the probability of drugs use among those reporting a condition [among those reported] for which drug use is standard.

Remark 9
Did the authors assess calibration and discrimination of the logistic regression models? These measures should be included in the results section.

Reply
We would like to emphasize that this is not a prognostic model to predict drug use in individuals. Therefore, calibration and discrimination in our view are not relevant here. Our models try to explain the pattern of drug use in subgroups according to ethnic descent; hence the standard report format of models in such context is used (reflected by the significance level of the estimated coefficients of the variables).

Remark 10
In the results section (last paragraph before the location of Table 2), the authors mention that they found two statistically significant interactions, between Turkish origin and number of chronic diseases and between Moroccan background and number of chronic diseases. Since number of chronic diseases is a discrete quantitative variable, how should the odds ratios reported for these interactions (0.44 and 0.56, respectively) be interpreted? The same question applies to the OR=0.95 for the interaction found in the mental health model.

Reply
The interpretation is that apart from a general underutilization effect related to being from Turkish descend (OR 0.42 of 58% less), an extra effect is present related to the number of chronic diseases. One extra chronic disease (self report) produces an additive reduction of 56% (1 minus 0.44) when descending from Turkey. This effect is not present in other ethnic groups.

Remark 11
In Table 3 being male does not seem to be associated with drug underutilisation for DM. The last paragraph of the Results section should be reviewed.

Reply
Correct. We removed "being male (OR 1.19)".

Remark 12
Discussion section
The authors should discuss the finding of a high prevalence of non-treated diabetes among elderly Turkish and Moroccan individuals. There is literature about sub-optimal treatment of diabetes in Turkey (See Diabetes Metab. 2004 Sep;30(4):327-33. Sub-optimal drug treatment of diabetes and cardiovascular risk in diabetic patients in Turkey. A countrywide survey. Damci T, Kultursay H, Oguz A, Pehlivanoglu S, Tokgozoglu L; Vascular Risk Study Group).

Reply
We thank the reviewer for pointing out this study to us. We addressed the results in the discussion.

Remark 13
In the fourth limitation, the authors state that the reasons for non-response did not differ according to ethnic background. But the results show high variability between groups for the reasons: “respondents could not be reached” and “refused participation”. The sentence seems inconsistent with the authors statements.

Reply
We deleted that sentence to avoid inconsistency.

Remark 14
Discretionary Revisions
Methods section
Non-response due to not being reached during fieldwork was 35% among Turkish subjects and 16.2% among Moroccans. What can explain this difference? In reference to refusing participation, what may explain that Dutch people have a much higher rate of refusal?

Reply
A large number of Turkish elderly reside in their home country for a couple months per year and therefore difficult to reach. That is the case for only a smaller number of Moroccan elderly. In the Netherlands, in general, people are reluctant to participate in research resulting in high non-response rates.

Remark 15
The number of interviewers is very high (average of 7 interviews per interviewer). Is there a reason for that? It seems that variability in response may have been affected by variation in the interviewers’ performance.

Reply
The high number of interviewers is the consequence of matching on ethnicity and gender, and the practicalities involved in conducting in 11 cities all over the Netherlands. We selected interviewers per region to enhance successive interviews. We do not believe that variation exist in performance because interviewers were trained and supervised intensively.

Remark 16
Results section
In Table 2 there are two logistic regression analyses for each group of individuals. It is logical that when the variable language and ethnic background are included in the model (block 2) there is a change in the coefficient of the language variable. Since the coefficients of the other variables do not change much, I would present only the results for block 2. Table 2 would be easier to read and interpret.
Reply
We adapted the table as reviewer requested and changed text accordingly in the results paragraph.

Remark 17
Minor Essential Revisions
Abstract
In the conclusions section there is a typo in “unterutilisation”.

Reply
Text is completely checked on typos.

Remark 18
Background section
Third line: change [e.g. 3] with [3] and move it to the end of the sentence.
Fourth line: add “that” between thresholds and immigrants.

Reply
Adapted as reviewer requested.

Remark 19
Methods section
In the Measurements subsection, 8th line, there is a typo in “psycopharmaca”. In the same subsection, the 4th paragraph starts with “Third third”, which should be changed to “The third”.

Reply
Adapted as reviewer requested.

Remark 20
Results section
In the last line of the Results section, instead of “lower utilisation”, should say “lower underutilisation” or “higher utilisation”.

Reply
That is correct and adapted as reviewer requested.

Remark 21
In Table 1, the percentages of subjects aged 55-64 are empty, and the percentages of men and women do not add up to 100.

Reply
In Table 1 Age is a subheading and below the percentages of men/women in the age category 55-64 are presented. It is correct that they do not add up to 100 because (not illustrated in the table) the age category 65+ adds up to 100. We changed the lay out in the table to avoid misunderstanding.

Remark 22
Discussion section
There are first, third and fourth limitations but not a second. It would be easier to follow if the authors insert a “second” in the corresponding paragraph.

Reply
The reviewer is right. We inserted a ‘second’.
Remark 23
In the 8th paragraph: “It also possible” lacks “is”.

Reply
We added ‘is’

Remark 24
References
Check capital letters in some references (for example 24 and 29)

Reply
We checked the references.

[end of reply to reviewer 1]
Reviewer 2
Remark 1
Are the data sound? Data are already 7 years old; problems that were found with the utilization might already been addressed.

Reply
Dutch health care system has not changed in 7 years in terms of health care delivery. Health insurance system did change over the 7 years with a shift from an income dependent health insurance into an income independent private health insurance, with differentiated premiums and co-payments. Moreover, we believe that the problem of underutilization in these immigrant groups might have been increased due to the fact that they are 7 years older now. With higher age more health problems are expected.

Remark 2
I would suggest to rephrase the “more seems not enough” and make the title more explicit, by focussing on the drug underutilisation.

Reply
We agree and adapted the title: Underutilization of prescribed drugs among first generation immigrants in the Netherlands.

Remark 3
The abstract should be improved. In the methods section I miss information on the outcome measures (partly included in background currently) and analysis. In the results I would expect OR’s for the effects found (and the info on study population should be included there instead of in the methods). The conclusions are currently a repetition of the results.

Reply
We agree with the reviewer and adapted in the abstract accordingly.

Remark 4
There are quite some “typo’s” in the manuscript.

Reply
We changed these.

Remark 5
Make sure that table 2 fits on the page, as otherwise the figures are moving.

Reply
We trust the manuscript lay-out will be addressed in the publication process.

Remark 6
How could you calculate a mean (sd) for income per month as is was asked in 10 categories?

Reply
Household income was measured in 10 categories (ranges). Average net income was estimated on the basis of the multiplication of the population proportion per category times the midpoint income per category.

Remark 7
P. 14 line 1: “being male (OR 1.19)” should be removed as it is not significant in the table.
Reply
We removed "being male (OR 1.19)".

Remark 8
I have some problems understanding figure 2a and 2b. Do I read it correctly that e.g. 10% of the Dutch reports DM, but 80% uses drugs for DM. If so, this is a huge difference and indicates a underreporting of the self-reported diseases. Furthermore, maybe the underreporting is less for e.g. the Turkish and that means that there is no underutilization of drugs.

Reply
Figure 2a shows the prevalence of diseases in the studied groups (total study population). Figure 2b shows depicts drugs utilisation among the population of diseased (the prevalent cases of Figure 2a). Eg. 10% of the elderly who reported DM is Dutch (n=49) of whom 80% uses drugs for DM.

To avoid this confusion we changed the title of figure 2a,b into:

Figure 2- Panel a: Prevalence of three self-reported chronic conditions and panel b: specific drug utilisation for that condition among the diseased (panel a) five ethnic groups (Dutch N=49; Turkish N=168; Moroccan N=132; Surinamese N=145; Antillean N=93) in the Netherlands (2003)

[end of reply to reviewer 2]