Author's response to reviews

Title: Diagnostic self-tests on body materials among Internet users in the Netherlands: prevalence and correlates of use

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Author's response to reviews: see over
20 January 2009

To the editors of BMC Public Health
Reference number: BMC Public Health, MS: 2033942728224699

Dear Dr Puebla,

Please find enclosed a revised version of the previously submitted manuscript ‘Diagnostic self-tests on body materials in the Netherlands: prevalence and correlates of use’ (BMC Public Health, MS: 2033942728224699). We include a copy of the questionnaire translated to English as an additional file.

We thank the reviewers and the editor for their valuable comments and the opportunity to revise our manuscript. We have made a number of changes along the lines suggested by the reviewers, and in this letter we will respond point-by-point to the reviewers’ concerns. The comments are repeated in italics and our response is in normal format.

However, first we would like to apologize to the reviewers because we didn’t respond to their comments on the previous manuscript. Unfortunately, we have never received these comments.

On behalf of all the co-authors,

Sincerely,

Gaby Ronda
Reviewer: Gerald Haidinger

Reviewer’s report

Major compulsory revisions

1. The title of the manuscript needs to be changed: the authors report the use of self-tests in a group of internet-users which could differ a lot from the Dutch population. Hereafter we will discuss this issue (see point 4 and 5 on page 2 and 3). However, we agree with the reviewer that the title of the manuscript suggests we report on a survey of a representative sample of Netherlands population, and therefore we have changed the title.

Diagnostic self-tests on body materials among Internet users in the Netherlands: prevalence and correlates of use

2. The total number of panel members who were addressed is (still) missing (over 12.000 is too vague). Therefore the calculation of participation and prevalence is disallowed. The total number of members who were addressed was 12,529. This was the entire panel at the moment of the survey (September 2006). We now have included this information in the Methods section.

3. The quotation of the x2-results is not necessary, the giving of P-values is sufficient. We have removed the x2-results.

4. "We found that 16% of a representative sample of Internet users had ever used a self-test" (first sentence of discussion): representativity is not proven and there is no evidentiary citation on that matter in the references list.

Indeed we didn’t include information about the representativeness of the Internet panel, and representativity is not proven. The Flycatcher institute for online-research offers the possibility to draw a sample from the entire panel which is representative for the Dutch population. To assess the representativeness of the panel, or to draw a representative sample, important background variables (e.g., age, sex, education, postal code, nationality, and country of origin) are compared with the latest data from Statistics Netherlands [http://www.cbs.nl/en-GB/menu/themas/default.htm].
Since the extent of self-test use was unknown, we decided to use the entire panel to ensure that we discovered a reasonable number of self-testers. The entire panel, as well as the panel in our survey, is younger, contains more women and is higher educated compared with the Dutch population [Statistics Netherlands, http://www.cbs.nl/en-GB/menu/themas/default.htm].
We now have included this information about (the representativeness of) the panel in the Methods and in the Discussion section, and we have removed the term ‘representative’ in the Discussion section.

5. Even if the sample is representative for Internet users, selection bias could still influence results, an issue which must at least be mentioned in the discussion section of the manuscript.
We agree with the reviewer that selection bias due to non-response could also have influenced the results. Luckily, we were able to retrieve data from non-respondents about their age, sex and educational level. Non-respondents were found to be younger and less educated than respondents.
We have included this information in the Results section and mention this issue of selective response in the Discussion section.

**Discretionary revisions**

6. The term "sex" still is preferred to "gender".
We have changed ‘gender’ into ‘sex’.
Reviewer: Fiona Miller

Reviewer’s report

Major compulsory revisions

*It would be useful to have more information about the research methods.*

1. *How the questionnaire was developed* (e.g., based on a review of related questionnaires; with or without piloting with a relevant sample?), *how many items it included, how it measured item response* (dichotomies, scales?), *and how many times the questionnaire was circulated* (only once, without follow-up?)

A literature review we performed in preparation of the study revealed a lack of published research on (the frequency of) self-testing, associated factors, and consequently on questionnaires about self-testing. In our study, self-test use and possible associated factors were assessed with a newly developed short questionnaire. First, we conducted an Internet search to identify self-tests that were potentially available to the general public in the Netherlands in 2006. We found self-tests for over 25 conditions and four possible types of self-testing. The conditions included in the questionnaire were based on consensus among the research team and external experts. Next to data about previous and potential future use of self-tests, the questionnaire collected data about (socio) demographic factors, health status and health-related lifestyle factors. The selection of these variables was based on the assumption that they would possibly be associated with self-test use, as previous research shows that these factors are often related with health-related behaviors in general. Our underlying thought was that in particular the ‘worried well’ might use self-tests. The questionnaire has been piloted with a small sample (n=15) of the target population on readability and comprehension, and on possible technical errors (online-research). The questionnaire has been 8-days online and a reminder was sent to non-responders after 5-days.

We have included the above information about the development of the questionnaire in the Methods section, and the questionnaire has been translated and is now included as an additional file.
2. Your sampling frame and specifically, the Internet panel (who are its respondents, how are they recruited, how is their representativeness assured?). The material on the flycatcher website is not in English, so your readers are unlikely to learn much by perusing it.

Unfortunately, the information about the Flycatcher Internet panel is not in English. We will discuss this issue with the management team of the institute.

Everyone, aged 12 years and over, with an e-mail address can apply for the panel by means of the Flycatcher website (www.flycatcher.nl). Recruitment takes place by means of various channels: ‘send-to-a-friend’ actions by existing panel members, newsletters, directories of third parties (after permission), other private panels (after permission), and mouth-to-mouth advertising. In case of underrepresentation of certain subgroups, special actions are taken, such as a ‘send-to-a-friend’ action aimed at this subgroup. For data about the representativeness of the Flycatcher panel see point 4 page 2 and 3.

We included more details about the panel in the Methods section.

3. Could you provide an analysis of how your respondents compared to your non-respondents – on as many items as possible – and discuss what this might indicate about your results.

See point 5 on page 3.
Reviewer: Patrick MM Bossuyt

Reviewer’s report

Major compulsory revisions

The panel

1. Page 5 - “The panel (...) is a representative sample of Dutch Internet users”
How is representativeness of the panel evaluated or guaranteed? Please provide more details, or a reference.
Indeed we didn’t include information about the representativeness of the Internet panel, or how it is evaluated or guaranteed. For more information about the entire panel see point 4 on page 2 and 3, and point 2 on page 5. We have included more information about the (representativeness of) the panel in the Methods section and in the Discussion section.

2. Page 5 - (www.flycatcher.nl)
The Flycatcher website is in Dutch, and does not seem to have references explaining the composition of the panel.
Unfortunately, the information about the Flycatcher Internet panel is not in English. We will discuss this issue with the management team of the institute. You can download a brochure (in Dutch) about scientific research via [www.flycatcher.nl](http://www.flycatcher.nl), link ‘Lees hier meer over de organisatie’, [www.online-onderzoek.nl](http://www.online-onderzoek.nl), brochure: sociaal-wetenschappelijk onderzoek.
For more information about the composition of the panel as well as information about the recruitment of panel members in English, see point 4 on page 2 and 3, and point 2 on page 5.
We included more details about the composition of the panel in the Methods section.

3. Page 8 – “We found that 16% of a representative sample of Internet users had ever used a self-test, with an average of 2.1 tests per self-test.”
The average age of the respondents was 37 years, with a 2:1 female to male ratio, and 26% had a chronic illness or disability. How can this be a representative sample of the Dutch Internet users? Remove “representative”.
We agree with the reviewer that our sample is not a representative sample of Internet users. Although it is known that Internet users in general are younger and higher educated than non Internet users, we clearly have an overrepresentation of women.

We have removed the term ‘representative’.

The selection of self-tests

4. Page 5 – “Whether the person had used, had ever considered using, or intended to use 25 specified self tests”

This sentence refers to 25 specified tests. Page 3 mentions 25 conditions. Table 1 lists 25 conditions, or combinations of conditions (Thank you for including these now). For several of these conditions, such as diabetes, a number of different tests are available, varying in features and probably in accuracy (for diabetes: glucose strips, HbA1c, Chemcard etc.). 25 conditions, or 25 tests? Please remove the ambiguity.

Twenty-five Self-tests or 25 conditions?
We completely agree with the reviewer that for several conditions, different tests are available, and that our use of ‘conditions’ and specified ‘self-tests’ caused confusion. In the Internet search we found self-tests for over 25 conditions.

We changed ’25 specified self-tests’ (page 5) into ‘a self-test for 25 specified conditions’.

We also changed the title of table 1 into ‘reported use of a self-test for 25 conditions’.

Selection of variables

5. Page 3. “and the association between demographic factors, health-related lifestyle factors, health status, and self-test use.”

There is no explanation for the selection of variables in the questionnaire, no listing of prior hypotheses. Please include a rationale or prior hypotheses in the introduction or in the methods section to remove the suspicion of a "fishing expedition".

Please see point 1 on page 4.

We now have included more information about the development of the questionnaire in the Methods section. The questionnaire is now translated into English and included as an additional file.
Conclusions

6. Abstract (Results) – Page 8 (Discussion) “self-testers seem to be more consciously engaged in health-related behaviours.”

As indicated before, this is highly speculative and not supported by the data. There were no questions about conscious decisions in the questionnaire. Self-testers also had a higher reported fat intake, a higher reported BMI, and more reported alcohol intake, and more often a lower perceived health. Remove this conclusion, or rephrase.

The precise results of the logistic regression analyses were as follows (see Results page 8): ‘Both female and male self-testers, when compared with non-testers, had a higher BMI, were eating less fat (or less saturated fat), were more likely to use dietary supplements and homeopathic medicine, were more likely to report having a chronic disease, and perceived to be in poorer health. In addition, female self-testers had a higher level of education and were more likely to be blood donors, whereas male self-testers were less likely to be physically active.’

The use of dietary supplements and homeopathic medicine is in our opinion a conscious decision and a health-related behavior. However, we agree with the reviewer that the relationship between self-test use and the other lifestyle factors is not so clear and awareness might be an issue.

We have rephrased this sentence in the abstract (Results) and in the Discussion section as follows: ‘On the other hand (or consequently), they were more engaged in health-related behaviour such as the use of dietary supplements and homeopathic medicine.

Minor essential revisions

7. Abstract – Conclusion. “Self-diagnosis by means of a self-test on body materials is a phenomenon that cannot be ignored. It is essential to develop appropriate information for consumers, health care providers, and policymakers about pros and cons of self-testing and specific self-tests”

Both these recommendations are not conclusions that are supported by the data collected. Please rephrase.

We agree with the reviewer that these recommendations are not supported by the data. As such they are only recommendations and not conclusions.

We have rephrased the conclusion in the abstract as follows: ‘Self-testing proved to be relatively prevalent among Dutch Internet users. Therefore, we think that it is essential to
develop appropriate information for consumers, health care providers and policymakers, about the pros and cons of self-testing and specific self-tests.’

**Discretionary revisions**

8. *Why were monitoring tests excluded? Why pregnancy tests?*
In our definition and for this study, self-testing is restricted to in-vitro tests of body materials, that are initiated by the consumers (not on physician’s advice), with the aim to diagnose (the vulnerability) of a certain disorder. We excluded monitoring tests because they are usually following the course of a disease, and are usually initiated by a medical professional. We excluded pregnancy tests because women have used them already quite a time and they have been widely accepted.

9. *I would have liked to see the questions listed verbatim.*
The questionnaire is now translated into English and included as an additional file.

10. *The use of decimals is still of no help in interpreting the percentages. Please consider using only two meaningful digits in all sections.*
We have removed the decimals in the text.

11. *I still regret that there is very little information of the channel through which these tests were acquired: bought though Internet, from a pharmacist, in a supermarket, etc. I would like to see more detail.*
In table 1 we have indicated the number and percentage of ‘true home’ tests. We think that the true home test is especially important because the consumer is responsible for all aspects of the tests (see Background on page 1). As you can see in our questionnaire (question 3b), we had two options for the true home tests: bought by the chemist, pharmacy or supermarket or ordered through the Internet, newspaper or magazine. Three-quarter of the relevant home tests were bought by the chemist, pharmacy or supermarket. The remaining part was ordered through the Internet, newspaper or magazine.
We have included this information in the Results section.
12. Page 7 – “potential differences between the variables were calculated”
differences between groups?
Indeed, differences in variables between groups were calculated.
We have changed this sentence now.

13. Page 8 – “independent predictive value”
These variables are not independent, even in a multivariable analysis, and they
are not predictive. Please rephrase.
We have changed the sentence as follows: ‘Multiple logistic regression analyses were
conducted to assess the relationship between self-test use and the various variables, for
women and men.

14. Page 9 – “the results are based on an Internet panel, and it can be assumed
that the use of self-tests among Internet users is higher than among non-Internet
users”
Please include the possibility of selective response in your discussion of the
limitations.
The generalisability of the Internet sample is clearly an issue. We have two types of
potential selection bias. Selection bias because the panel is not representative for the
Dutch population, and selection bias within the Internet panel due to non-response.
As indicated in point 5 on page 3, we were able to retrieve data from non-respondents
about their age, sex and educational level. Non-respondents were found to be younger
and less educated than respondents.
We have included this information in the Results section and mention this issue of
selective response in the Discussion section.