Author's response to reviews

Title: The Effect of Major Depression on Participation in Preventive Health Care Activities

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Author's response to reviews: see over
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Editorial Office
BMC Public Health

Re. MS: 1259978111241519 The Effect of Major Depression on Participation in Preventive Health Care Activities

Please find attached a revision of this paper. This letter contains a description of changes made in response to the reviews. A summary of changes is presented below.

1. Editor’s comments:

A statement of Helsinki compliance and Ethical Review/Approval has been added. Even though this was an analysis of an anonymized dataset, we sought approval from our local ERB.

2. Reviewer 1:

The reviewer’s comment were numbered, and the revisions are listed using those numbers. However, parts of the actual comments are also presented (in italics) for ease of reference.

Major Compulsory Revisions

1. “References 6-8 are ... are from Canada. Please convince me that the pattern is the same in other parts of the world.”

Several citations from outside of Canada have been added here.
2. “The area of blood pressure check is not mentioned in the introduction.”

A new sentence has been added to final paragraph of the methods section. This indicates that no studies have examined the impact of depressive disorders on blood pressure checks. While working on the revision, the literature was again searched for relevant studies, but none were found.

3. It is unclear what kind of screening the authors refer to concerning reference11.

The authors of that study used a preventive index that combined several relevant preventive activities. However, they also reported individual associations with two of the activities evaluated in the current study (mammography and Pap tests), so a statement about this has been added.

4. “More information has to be given concerning the NPHS.” (followed by list of key elements)

The additional details listed ‘a’ through ‘g’ in comment #4 have been added to the methods section of the paper. The sections describing the NPHS are also reorganized in response to the suggestion to add subheadings to the methods section, see below.

5. Definition of blood pressure checks? Physician / nurse / at home?

The wording of the actual items has been added to the text. Unfortunately, the item does not specify the professional doing the check, or the location of the check.

6. What are the recommendations for blood pressure checks in Canada?

A new citation to the Canadian Guide to Clinical Preventive Health Care has been added. Unfortunately, this is an old (1994) document, but it remains an official source on the national government’s Public Health Agency web site. A web site URL that has been more recently updated from the National Task Force on Preventive Health Care has also been added.

7. Who is invited to Pap-smear in Canada?

The Canadian recommendation is for annual screening (citation added, see above).

8. Who is invited to mammography screening in Canada?

Within the specified age group, it is also annual (citation added, see above).

9. What is the overall participation in Canada concerning Pap-smear and Mammography?

The baseline (1994) overall frequencies have been added. This information has been treated in the revision as additional background information in the methods (rather than results) section, after the statements about the Canadian guidelines.
10. The meaning of: Due to a lack of “organic” and hierarchical exclusion items”…. is not clear to me. This terminology may be well defined within the specific field, but to a reader from a more general background it is not clear what it means.

These statements refer to specific diagnostic criteria in the American Psychiatric Association’s (DSM-IV) nosology. However, in reviewing this part of the text, it seems that this statement is not necessary. The issue is only introduced in the paper as a possibility, which is then discounted because (it is argued) the instrument produces reasonable prevalence estimates. The offending sentence has therefore been removed rather than being clarified.

11. The interview guide / questionnaire has to be described more in detail:  
a) Number of questions? b) Areas that were covered? c) Proportions performed in-person vs. over the phone? d) What is meant by “chronic diseases”? 

The revised paper identifies the wording of the specific items used to elicit information about chronic medical conditions, using hypertension as an example. There is also additional information about the interview (including the length), but the number of items was variable due to eligibility and skips so the number of items cannot be easily identified. A description of the proportion of interviews conducted over the phone has also been added.

12a) The use of the bootstraps procedure has to be explained. What specific design problems are you referring to?

Additional text has been added to clarify this point. The bootstrap procedure deals with unequal selection probabilities (stratification) and clustering in the sampling design.

12b) The rationale for inclusion of the selected co-variates in the multivariate analysis should be given.

A statement about this has been added to the methods section. The selection of variables was based on a judgment concerning whether they may be associated with depression and potentially also be determinants of participation in preventive activities. If so, they were considered potential confounders.

12c) Why include previous diagnosis of hypertension in the adjusted analysis of mammograms and (?) Pap-smears.

The diagnosis of hypertension would have been included as this is one of the chronic conditions included in the survey. However, intention of the sentence in question was to say that all of the various covariates (except for sex, since mammograms only apply to women) included in the proportional hazards models for blood pressure checks were again examined in the models for mammograms (and one more, hormone replacement therapy, which might have led to increased mammographic surveillance because of concerns about breast cancer risk). The sentence has been changed in order to clarify this.
12d) It is not clear what the adjusted analysis included concerning Pap-smear.

The list of included covariates has been added to the paragraph describing those results.

13. It is not clear if table 1 refers to subjects who had participated in blood pressure checks at baseline or if it includes all subjects in the NPHS.

A footnote has been added to Table 1 (and also the other two tables, since the same issue applies, see below) indicating that all respondents within the eligible age range were included.

14. Table 1 should include the number of subjects in different groups. Absolute numbers in the heading or in each row.

The absolute numbers included in the estimates are now presented in each table in a new column.

There ought to have been a statistical testing between the groups. Even if CI:s overlap, there may be statistically significant differences.

The p-values from Wald tests (based on the bootstrap procedure) have been added to the paper.

16. The unadjusted HR. Does it relate to non-participation or participation?

In the first part of the results presentation the sentence describing the unadjusted HR has a new phrase clarifying that this HR quantifies the effect of MDE on transition to the non-screened group. The result are complex for the blood pressure checks analysis because Table 1 (which presents cross-sectional data) suggests an increase in the frequency of screening in those with MDE. Consistent with this, the HR indicates that among those who are being screened at a the baseline time point, there is a slightly lower risk of transition to the unscreened category if they are depressed.

17. The adjusted HR for MDE should be given.

The adjusted HR was presented in the final sentence of the relevant paragraph in the results section. This may not have been clear because there was no specification that this was an HR for MDE. The sentence has been reworded in order to clarify this.

18. Age is adjusted for, it would be valuable to see if the pattern is similar in different age strata (given the introduction).

We have added a sentence to the results section for Pap tests indicating that despite the Kaida et al. results, we did not identify age by MDE interactions in our analysis.
19. Table 2 (mammograms). The heading should probably be about those that did NOT have mammograms.

The headings of all three tables have been rewritten to increase clarity.

20. Table 2 and 3 (Pap-smear) should be changed as table 1, point 13-16.

This has been done.

21. There are no references when the authors talk about the “existing literature”.

This part of the discussion has been improved. Instead of referring to the single study that had an assessment of depressive disorders (Kaida et al.), the discussion now cites two community studies that reported associations with depressive symptoms, supporting the interpretation that increased medical contact (more associated with disorders than symptoms) might explain the negative results reported here. Only a small minority of community residents with elevated Beck Depression Inventory scores (this is what Aro et al. used) would come into contact with medical services for depression treatment, whereas in Canada about half of those with MDE would.

22. Representativity of the NPHS. Can we expect to find similar frequencies of depression and participation in preventive health care activities in the NPHS as in the general population? If not – how would this have affected the results?

This comment seems related to the concerns expressed in comment #23. In the revised paper, it is more clear that the general population estimates (including everybody) are presented in Tables 1 through 3 – this clarification being made using revisions to the text and Table headings, as described above. However, the prospective parts of the analysis were concerned with a negative impact on screening and therefore needed to be restricted to those respondents at risk of such a negative change, i.e. those who were screened at baseline. This is best, in our opinion, considered an issue of representativeness (as in generalizability) rather than bias, and we have added discussion to draw attention to this issue. The paper has been rewritten in various places (including the abstract) to make the reader more aware that it contains both cross-sectional a prospective data.

23. Selection bias. Only subjects who had participated in the preventive health activities at baseline were included. They were probably selected towards more health conscious individuals, and perhaps milder forms of depression, as compared to subjects that had not participated in these activities. The authors need to convince the reader that the null finding is not merely an effect of comparison of two very similar groups. “Healthy depressed” and “healthy non-depressed”.

The added text in the “limitations” paragraph of the discussion (see response to comment #22) should address this issue. The respondents eligible for the prospective parts of the analysis are not necessarily healthy, but are being successfully screened at baseline.
24. Confounding. There should be a clear comparison between depressed and non-depressed with regards to the covariates included in the multivariate analysis.

The associations between these variables and MDE have been previously described, so rather than add another Table, added additional descriptive text and citations (these papers contain detailed Tables documenting the association of these variables with MDE).

25. What other potential co-variates may have been of interest if there had been available information?

Psychological trait measures relevant to the study’s theoretical basis (Health Belief Model) would have been very useful. A note about this has been added to the paragraph discussing limitations in the discussion.

26. Point estimates indicate potentially interesting findings, +20% risk of non-participation for both mammography and Pap-smear. Discuss the problems of potential type II errors more in detail.

The study would not have had power to detect weak effects – so we have included a cautionary statement about the possibility of Type II error (also in the limitations paragraph in the discussion section). Also, we have been careful to avoid any excessively definite repudiation of the previously reported modification of the MDE-Pap test association (Kaida et al.).

27. It would be an advantage to use sub-headings in the material and methods section.

This has been done. The new sub-headings are not exactly the traditional ones, but seem to fit with the material.

28. The results section include information on how analyses were performed that are not presented in the material and methods section. The results section (blood pressure) also includes some interpretation of the findings. This may be more appropriately placed in the discussion. A matter of taste.

A lack of clarity on this point emerged in the paper because we had not clearly identified the Tables as representing the cross-sectional parts of the analysis. The methods section now refers to “initial” cross-sectional tabulation, followed by proportional hazards regression – so that, along with the changes that have been made to the Results section, there should no longer be an appearance of undescribed methods in the results sections.

3. Reviewer 2:

No specific suggestions for revisions were made by the second reviewer.
After these revisions, the paper is improved, we would like to thank both reviewers for their feedback and comments.

Sincerely,

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