Author's response to reviews

Title: Far from easy and accurate - detection of metabolic syndrome by general practitioners

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Author's response to reviews: see over
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Dear Editor

Please find here our revised manuscript entitled as "Far from easy and accurate – detection of metabolic syndrome by general practitioners". We would like that you could consider publishing this revised version as a research article in BMC Family Practice.

We thank the reviewers for their valuable and constructive comments. We have considered them very carefully. We have made all the changes that we could regard as possible. In this way, we believe that we have been able to improve our manuscript. In a separate document we have responded carefully point by point to reviewers' comments. The changes are highlighted with red in the text. A professional language consultant has revised the English language of this manuscript.

The content of the manuscript has neither been published previously in print nor electronic format, and is not under consideration by another publication or electronic medium. None of the authors have financial or other relationship that might constitute a conflict of interest regarding data of this manuscript. This study has been approved has been approved by the Ethics Committee of the Kuopio University Hospital and the University of Kuopio.

Sincerely

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Response to Reviewers

Response to Reviewer 1

Minor essential revisions: these minor errata can be modified in the text

Abstract, line 10: The GPs’
Page 3, line 9: The two most recent…
Page 5, line 1: Attend a health check…
Reference #19: D'Agostino RB
Table 2; Row 14: Triglycerides

Response: We have made these corrections.

Discretionary Revisions:
The criteria set for diagnosis of metabolic syndrome has gotten modified, in the sense of adapting it to the clinical practice. This fact is justified according to the Finnish referred strategy (using Finnish Physician’s Handbook, described since 1996). As the aforementioned reference only is available in Finnish, I think that writing a very brief abstract in English would be adequate for all the readers and a good clarification for the aim of the article.

Response: We have added a short description of this article in the Introduction.

Another key point is the statistical analysis. I think it can be improved by indicating confidence intervals for example.

Response: We have considered this suggestion very carefully. This is a descriptive study focusing on the detection of metabolic syndrome, and calculations for sensitivity and specificity have been conducted. Usually confidence intervals are not used in presenting this kind of data. Therefore we decided not to use confidence intervals.
Response to Reviewer 2

Major Compulsory revisions

1. More explanation is needed in the introduction about WHY is it important for GPs to diagnose MetS. The authors have assumed that their readers will understand this. The authors themselves comment in the discussion that ‘more and more counter-arguments have been raised about the diagnostic, prognostic and therapeutic value of MetS’ which is true. I think they need to then justify why their study is important in finding that GPs don’t diagnose it.

Response: In introduction we have tried to describe the importance of MetS as a public health role which results in the important role of GP in detecting and treating it. We have added the following sentences in the Introduction to clarify the importance of GPs role in the diagnostics of MetS:
“Based on these efforts and scientific literature, MetS can be considered to constitute a very common and important risk factor of diabetes and cardiovascular diseases. This means primary care physicians should have the most important role in detecting and treating MetS.” Furthermore, because this concept does not seem to be adopted by the GPs, we wanted to review the critical points which have risen from the recent scientific debates. We still think – in general – that there are bases for MetS but more feasible and global risk detection methods should be developed.

2. Page 5, paragraph 2, line 4: the participation percentage rate of 64.3% has used 1208 as the denominator (people who filled in the patient questionnaire) but I think it would make more sense to use the figure of 1180 as the denominator (people who filled in the questionnaire and attended the health check). 1180 has been used in Table 2 as the number of patients.

Response: We have corrected this as suggested.

3. Page 7, paragraph 3, line 8: Only 20 patients were excluded due to missing data and yet in Table 2 there is missing data for up to 133 patients in some categories. This discrepancy needs to be explained.

Response: In Table 2, one can notice that in some categories there are missing data for more than 100 patients. This is due to partly incomplete data collection in the health checks as well as in the questionnaires. We ran an analysis on the components of MetS listed in Table 1 in the patient data as it is. When there were missing data for some component of MetS, the patient was considered not to fulfil the criterion in question. 20 patients were excluded because they had missing data in all of the diagnostic components. Our analysis may have led to a slight underestimation of the prevalence of MetS in the study population. However, if the prevalence of MetS had been higher in our study, this would only have reinforced our finding of MetS being poorly detected by GPs. Thus it wouldn’t have changed significantly our results or conclusions.

4. Page 8, paragraph 2, line 4: It does not make sense to report that 75 out of 1059 patients reported having MetS and hence patients are unclear about the concept. Only 570 (from Table 3) actually had MetS, why would the rest of the 1059 patients need to report having MetS when they don’t have it? If they don’t have the syndrome why do they need to have a clear concept of it? This should be reported as 75 out of 570 patients with MetS reported having it.
Response: We have changed the last sentence of the paragraph to the following: "Of the patients reporting having MetS, 53 (70.7%) met the study criteria, as opposed to 466 subjects (48.2%) in the group reporting that they did not have the syndrome.”

5. Page 9, paragraph 2 and 3. There is general mention of ‘risk assessment models’, ‘prevention strategies’ and ‘risk scoring systems’ etc but it is not specified what exactly these are. Are the authors referring to Absolute cardiovascular risk assessment tools or other diabetes risk assessment tools or both or something else?

Response: We have specified these risk assessment tools.

6. Page 9, paragraph 3, line 5. The statement that ‘both traditional risk factors and emerging metabolic markers associated with the metabolic syndrome should be incorporated in future risk scoring systems’ needs to be justified why this would be an improvement on current risk scoring systems. Absolute risk assessment tools for CVD disease are currently poorly used due to time constraints and complexity of guidelines in many cases, why would making them more complex with the addition of various other risk factors and markers make them any more useful to GPs? What about other novel strategies to aid GPs in utilising such scoring systems?

Response: We agree with the reviewer. We have added the following sentence in the Discussion: “In a busy primary care clinical practice, this could mean a computerized decision support system that would be integrated into electronic patient records. This would enable the physician to make risk assessments based on a single algorithm without any particular scoring systems.”

Minor essential Revisions

1. Page 5, paragraph 3, line 1: What does ‘senior doctors’ mean?

Response: With the word senior we wanted to refer to the long working history and experience as a doctor and the senior status of these GPs among the colleagues working at a health centre.

2. Page 7, paragraph 1, line 1: delete the word ‘been’

Response: We have made this correction.

Discretionary Revisions

1. In choosing the inclusion criteria for the study, why was Coronary heart disease included and not other vascular disease?

Response: We wanted to keep the inclusion criteria for the study simple and easy to remember. We assumed that adding other vascular diseases in the inclusion criteria would not have increased the number of study patients or change the study population.
Response to Reviewer 3

Comments:

1. The study provided useful information on how metabolic syndrome is being perceived in primary care. Importantly, both doctors and patients are not aware of the constellation of these cardiovascular risk factors.

   Response: We agree with the comment.

2. Given that only 1160 subjects had measurements and records available for the diagnosis of metabolic syndrome, so this should be the number of subjects included in the final analysis. The percentages in the text and in Table 3 should be revised.

   Response: We have changed this according to the suggestion.
Response to Reviewer 4

Minor Essential Revisions

1. Abstract Background - Suggest changing to: Metabolic syndrome (MetS) is a major public health challenge. General practitioners (GPs) could play a key role in its recognition. However, it often remains undiagnosed in primary care.

Response: We made the change as suggested.

2. Add: Abstract Study Purpose - To assess how well GPs and patients recognise MetS.

Response: We made the addition suggested.

3. Abstract Methods - Suggest rewording to: 26 health centres around Finland were randomly selected to identify, over a two week period in April 2005, patients meeting the inclusion criteria of coronary heart disease or one of its risk factors. GPs and identified patients were asked to complete surveys which included a question about the patient's MetS status. A trained nurse conducted health checks of the identified patients utilising criteria for MetS modified from the National Cholesterol Program. Data from the GPs' survey were compared with those from the health check to establish the extent of congruence of identification of MetS. Abstract Results - suggest rewording to: Almost half (49.4%) of the patients met the criteria for MetS as established by objective measures. However, from the GPs' survey responses, only 28.5% of patients were identified as having MetS. Additionally, these groups of MetS patients were not congruent. The sensitivity of GPs' ... 0.73. Of the study patients, only 7.1% stated they were suffering from MetS.

Response: We made the rewording as suggested.

4. Abstract conclusion - suggest rewording to: Most patients are not aware of having MetS.

Response: We made the rewording as suggested.

5. p4 Under participants - "Altogether 181 GPs collected the data..." needs some explanation of the type of data collected and from where it was collected.

Response: To clarify the type of data collected we have added to the paragraph following the above-mentioned the sentence: “The study doctors made records of CHD and the risk factor status of each patient.”

6. p5 What data were elicited from the patient questionnaire apart from the one mentioned in the abstract?

Response: The patient’s questionnaire included questions about eating, exercising, drinking and smoking habits, use of medication, the patient’s illnesses, and Beck’s Depression Inventory.
7. Need another subheading 'methods' after description of the participants and before "At the health check".

Response: We added a subheading “Data collection”.

8. p5 should be ...fitting the patient's upper...

Response: We made the correction as suggested.

9. p6 as previously mentioned need some explanation of what other questions were asked in the patient and GP questionnaires and why the data were not included in this paper.

Response: In this paper we wanted to focus on the findings considering metabolic syndrome. We didn’t find the other data collected relevant to this paper, and thus decided not to report it here.

10. p7 under Results - states that measurements and records were collected from 1160 patients but this does not match the data provided in Table 2 eg n=1132 for BP measurement - why didn't the other 28 patients have their BP recorded? Why did 9 patients not have their gender recorded (table indicates n=1151? There needs to be an explanation of why 'n' differs so markedly between criteria.

Response: We have reanalyzed the data in Table 2 to represent the 1160 patients who were included in the objective analysis of MetS. This change was suggested by another reviewer. In Table 2, one can notice that in some categories there are missing data for more than 100 patients. This is due to partly incomplete data collection in the health checks as well as in the questionnaires. We ran an analysis on the components of MetS listed in Table 1 in the patient data as it is. When there were missing data for some component of MetS, the patient was considered not to fulfil the criterion in question. 20 patients were excluded because they had missing data in all of the diagnostic components. Our analysis may have led to a slight underestimation of the prevalence of MetS in the study population. However, if the prevalence of MetS had been higher in our study, this would only have reinforced our finding of MetS being poorly detected by GPs. Thus it wouldn’t have changed significantly our results or conclusions.

11. p8 Under Discusson - "Much work...underused." Suggest changing 'underused' to 'unrecognised' or 'undiagnosed'. "On the other hand...to the patients." Suggest changing 'concept' to 'condition'.

Response: We have made the suggested changes.

12. p8 2nd paragraph under Discussion - "However, we think...share the responsibility." Suggest wording this more positively eg However, there may be valid reasons for this, for example, over the years...

Response: We have made the changes as suggested.
13. p9 "There might be... concept of MetS". Not sure that "using the concept" is the right term but perhaps it should be "not using the diagnosis of MetS".

Response: We have made this change as suggested.

14. p10 under Conclusions - should be '...patients were not aware...".. Full stop after last sentence in this paragraph.

Response: There are full stops now after every paragraph in the Conclusions.

15. p10 under Competing interests - should be "There are no competing interests..."

Response: We changed the sentence to “The authors have no competing interests.”

16 Table 2 - 2nd criteria >65 years add (%)

Response: We have made this correction.