Author's response to reviews

Title: Knowledge of modifiable risk factors of heart disease among patients with acute myocardial infarction in Karachi, Pakistan: a cross sectional study

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Author's response to reviews: see over
Dear Sir/Madam,

Thanks for your valuable revision of the paper.

I have addressed the comments both by providing with a point-by-point response to them and by revising the manuscript.

**Reviewer: Julie J Zerwic**

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Page paragraph line

7 1 7 It is not clear how this questionnaire was scored. How was a score of ¾ obtained? Is this perhaps actually equivalent to 75%? There appear to be 13 questions in the instrument. If someone answered that they believed that there was no relationship (or even answered don’t know) between fatty food consumption and heart attack were they then asked the question how does consumption of fatty food affect the heart attack? More information about how the tool was administered and scored is needed.

Revised on page 7 paragraph 2 line 2

Four aspects of knowledge of the modifiable risk factors for heart disease were assessed: a) fatty food consumption b) smoking c) obesity and d) lack of exercise. Each aspect had a cumulative score of 1. Subjects were asked about the association and direction of the relationship of each risk factor as well as direction of association with heart disease [see additional file1]. In each category, if subject correctly identified the association of the risk factor with heart disease s/he would get a score of 1 otherwise 0 for that component. Subjects having score of 3/4 were regarded as having a good level of knowledge of CVD risk factors. This could be equivalent to 75%.

The numbers of question were 13 because some additional questions were for checking the direction of association while others for the cross checking the validity of responses.

8 2 3 It is not clear why variables that were not significant in the univariate analyses (p < 0.25) would be expected to achieve significance in the regression model. Is it possible that the authors mean 0.025?

Revised on page 9 paragraph 1 line 5

All variables with a p-value < 0.25 in the uni-variate analysis were included in multiple logistic regression model, and retained if they were significantly associated with the primary outcome in the final model (p<0.05) [24]. The use of p-value <0.05 often fails to identify important variables at the uni-variate analysis. Therefore we chose a cut of p
value <0.25. We may lose the confounding variables at the time of univariate analysis with the cut of p-value <0.05. Therefore, it is recommended to use a higher p value at univariate level.

21 Knowledge of heart attack symptoms was not the focus of the manuscript. However the finding that 81% did not know any symptoms (these were AMI patients) is very problematic. This should be discussed.

Thank you for the advice we have added the following part in the discussion part on page 15 paragraph 2 line 1

A very worrying finding was that 81% of the study participants were not aware of any symptoms of heart attack and only 6 % knew about 2 or more symptoms. This may increase the delay in seeking early medical care among AMI subjects, which would lead to a worse outcome. Therefore, we should also educate our population about symptoms of heart attack along with risk factors of heart attack

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Page paragraph line

2 3 3 Knowledgeable should be changed to good knowledge since that was the term defined in the manuscript.

Thank you,

2 3 5 Knowledgeable has been changed to good level of knowledge

3 1 1 It is not clear the direction of the relationship and that should be identified. I would assume that higher level of exercise, not chewing tobacco and higher knowledge of symptoms would be associated with good level of knowledge?

3 1 1 Direction of relationship has been explained

Subjects of Sindhi ethnicity, higher level of exercise, non tobacco chewing and higher levels of awareness of symptoms of AMI were also predictors of good level of knowledge

3 1 1 heart attack

3 1 2 As suggested it has been changed to AMI

4 2 5 cues should replace clues.
5.2.1 Authors should define “ghee.”

5.2.2 Ghee is clarified butter. This has been explained.

5 The authors focus initially on the need to assess knowledge of the population (prior page) but then switch the focus to patients with AMI (secondary prevention). The rationale for focusing on AMI patients should be made explicit.

5.2.7 There is a need to do a population based study for assessing knowledge as it would lead to education campaigns for primary prevention. However, the current study is a piggy backed to another study (Master thesis) by the first author. The objectives of that study were to determine the extent of delay in seeking early medical care after onset of AMI among subjects with first acute myocardial infarction (AMI) and to estimate the level of knowledge of modifiable risk factors and determine the factors associated with knowledge in the same population. We reported the findings of latter objectives in this paper.

5 It would be helpful if the authors acknowledge in the literature review those variables that were examined in the study. Some of the relationships are obvious such as education. Why would household composition be expected to have an impact on knowledge?

Variables that were discussed in the study are discussed on page 5 Para 1 line 4

In South Asia the family system is often source of knowledge and awareness of a healthy life style. The traditional extended family household may not be as updated in current knowledge as a nuclear family household because of a more orthodox attitude to health beliefs.

5.3.6 Are there words missing after the word fulfilled?

Thank you. Yes there were few words missing. The missing words were AMI criteria. This has been added in the text page 6 para 1 line 6

6.3.1 Omit the word “although.” And provide citations at the end of the sentence to show what published studies were used to structure the questionnaire.

7.1.1 has been modified accordingly
A structured questionnaire was used to collect data. Our questionnaire was not validated but different components of our questionnaire were taken from published studies [9, 10, 20, 21].

**7 1 3 Change the period after assessed to a colon.**

Thank you, Period has been changed to colon on page 7 para 2 colon 3.

Four aspects of knowledge of the modifiable risk factors for heart disease were assessed: a) fatty food consumption b) smoking c) obesity and d) lack of exercise.

**7 1 12 This line should be indented to start a new paragraph.**

8 3 has been modified accordingly.

**7 2 10 How was knowledge of heart attack symptoms assessed?**

8 2 21 Self reported.

**7 2 11 A new paragraph should start with, “The study was approved...”**

8 3 1 has been modified accordingly.

**8 Did all subjects complete the questionnaire in Urdu or did some subjects complete the questionnaire in English. Did subjects complete the questionnaire themselves or was it read to them?**

8 3 5 Yes all subjects complete the questionnaire in urdu. Questionnaire was read out to them by a trained research medical officer in Urdu.

**9 Combine the first sentence with the next paragraph since no paragraph should only have one sentence.**

10 1 1 has been done.

**9 2 6 Add risk factors after heart disease.**

10 1 6 Risk factors was added after heart disease.

**9 3 1 Change “knowledgeable” to good knowledge since that was the term used previously.**

10 2 1 knowledgeable has been changed to good level of knowledge.

**9 3 I would suggest deleting the confidence intervals from this paragraph and just leave the n and %.**

10 2 Confidence intervals has been deleted.
The direction of the relationship needs to be specified. For example is higher knowledge of heart attack symptoms associated with higher knowledge of risk factors?

Direction of relationship has been defined

Subjects of Sindhi ethnicity, who had more year’s formal of education, a higher level of exercise, a higher knowledge of symptoms of AMI and who lived in a nuclear family system, or did not chew tobacco were more likely to have a good level of knowledge of modifiable heart disease risk factors

Same issue as above.

Direction of relationship has been defined

Subjects of Sindhi ethnicity, who had more year’s formal of education, a higher level of exercise, a higher knowledge of symptoms of AMI and who lived in a nuclear family system, or did not chew tobacco were more likely to have a good level of knowledge of modifiable heart disease risk factors

lack of exercise.

has been corrected with correct association of exercise with heart disease

Cooking oil production industries have recently been promoting...
This is not a complete sentence.

Modified in revised version on page 12 para 2 line 9

A higher prevalence of knowledge about fatty food consumption and smoking may be due to advertising campaigns in the visual media. Cooking oil production industries are promoting the use of vegetable cooking oils over ghee (clarified butter), and reason in their advertisements that the latter contains high level of saturated fats which is worse for heart disease. The government has launched an anti smoking campaign on the state run TV highlighting the adverse effect of smoking on heart and other organs of the body.

Add an s to organ.

has been added

Remove that lesser education may be associated with lower intellectual capacity. Less education is more likely due to socioeconomic and access issues.

Sentence has been deleted as advised
What is meant by orthodox attitudes?

Traditional or generally accepted beliefs

The sentence about physicians is not clear.

Physicians must also ensure they impart education to their patients, as patients usually rely on doctors for first hand information

Thank you for your consideration.

Sincerely,

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Reviewer's report

Reviewer: Alexander M Clark

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
None

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

The English used could be improved throughout.

Manuscript has been revised for English

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Discretionary Revisions (which the author can choose to ignore)

The abstract could be clearer in terms of the English used and the description of the findings – which remain rather ambiguous.

Modified in the revised version

More detail could be provided regarding the prevalence of CV Risk factors in Pakistan.

Finally, more information could be given regarding the development and validation of the questionnaire.

Already given in the manuscript on page number 7 and 15 of revised copy of manuscript