Author's response to reviews

Title: The burden of stroke and transient ischemic attacks in Pakistan: a community-based prevalence study.

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Version: 2 Date: 17 October 2009

Author's response to reviews: see over
Authors’ response to reviews

Title: The burden of stroke and transient ischemic attacks in Pakistan: a community-based prevalence study

Version: 1
Date: October 5th, 2009

Dear Editor,

Thank you for your time and constructive review of our manuscript. Please find our point for point responses to the three reviews below. We have revised the manuscript according to the comments. We have incorporated all the changes that have been suggested. The manuscript has also been conformed according to the journal style.

We hope this manuscript is now acceptable for publication in your esteemed journal.

Best Regards,

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Reviewer: Craig Anderson

Thank you for your comments on our paper. We have addressed all your comments and revised the manuscript accordingly. Please find below our responses to your comments:

Major compulsory revisions

Comment 1: More details are required regarding the Census undertaken by the University Department in 2008 that provided the basis for the sampling frame and other data on the characteristics of the population. Did this use sampling or whole of population door-to-door sampling, and is anything published regarding this work?

Response: This is whole population door to door sampling. We have references to studies done in Bilal Colony but not this recent census. This is one of the oldest and best studied areas where the University has had a presence for more than 15 years. Some of the studies and web links are referenced below.


Comment 2: It is a little unclear whether clustering is involved in this study, and therefore needs to be adjusted for in the analyses. Please make it clear as to whether ‘single’ or ‘multiple’ adults were interviewed from each household. If the latter, then some adjustments will need to be made for the sampling frame.

Response: Households were identified that had adults aged 35 years and above. Adults, one per household were interviewed.

Comment 3: Multivariable logistic regression analysis – I think an error has been made in the statistical analysis section, where p>0.1 should mean p<0.1 for criteria of inclusion of variable from univariate to modeling.

Response: Apologies for the typing error, this has been corrected. Indeed, only variables significant at p<0.01 were included in the final multivariable model.
**Comment 4:** It would appear that participants were assessed at ‘the study site’. Please make it clear as to whether participants were assessed in the home (screening) and then in a clinic (neurological review, blood tests, etc) or whether all were undertaken in the home.

**Response:** The participants were given an invitation at the time of home visits to come to the ‘study clinic’, where the screening as well as the neurological review took place. The word ‘study site’ which we used was referring to this study clinic. Since this was a vague term, we have dropped it altogether.

**Comment 5:** The prevalence figures are high but without some comparison, the less informed will not fully appreciate the data. It would be good if these data were compared with other prevalence data from populations in a Table to be added to the manuscript.

**Response:** A data table (Table 5) of larger population based prevalence studies from developing and developed countries is now a part of the manuscript. Thank you for this suggestion.

**Minor Revisions**

Diagnoses are usually singular – that is ‘stroke’, ‘transient ischemic attack’, and ‘cerebrovascular disease’. The plural needs correction throughout the text

Done

Abstract – method of analysis using Stata does not need inclusion here; be consist in terminology ‘female’ rather than adding ‘women’ throughout; p<0.05 does not need inclusion when ‘significant’ is included

Done

3. Please explain what ‘triplopia’ is?

Done

4. Please elaborate on the data entry and quality control procedures. ‘Data were entered and then verified by two separate data entry operators’. What does this mean?

Done

5. CVD is first introduced in the statistical analysis section but then defined in the Results. This needs changing.

Done
6. It would be nice if there was any assessment of disability/functioning to include in Table 2.

This has been calculated and added to the result section for the patients who reported stroke or TIA.
Reviewer: Vlasta Vucovic

Thank you for your comments on our paper. We have addressed all your comments and revised the manuscript accordingly. Please find below our responses to your comments.

Minor Revisions:

Comment 1: Abstract- it is not necessary to mention the statistic package used for statistical analysis- this can be omitted. A sentence should begin with a word not a number; therefore the result section should begin with „Five hundred forty five individuals etc..“, similar changes are needed on several places in the text as well. Background: instead of the word „non-communicable“ I suggest the word „cerebrovascular“ disease to be written.

Response: Done

Comment 2: Materials and methods: In sample size estimation the sentence 600 households should begin as: Six hundred....

Response: Done

Comment 3: Minor corrections in grammar are advised.

Response: Done

Comment 4: I suggest that in Table 1 instead of 6 columns only 3 are shown: instead of two separate columns: n and % should be placed in an unique column n (%) like the authors have done in Tables 3 and 4.

Response: Done

Comment 5: P in P-value is usually written in capital letters.

Response: Done

Comment 6: The term cerebrovascular diseases encompasses entities such as stroke and TIA as separate disorders as well as a number of other disorders of vascular origin. Explanation of the CVD group in the paper in the abstract as well in the text is not written clearly and may be confusing to readers. Therefore the term "cerebrovascular diseases" should be omitted; I suggest that the authors explain that a proportion of the participants had both stroke and TIA (21.8%), i.e in Table 3. instead of CVD „stroke+TIA“ should be written.
Response: We agree with this suggestion and changes have been made across the text, table and figures to reflect this clarification.

Comment 7: Furthermore, in text it seems as if in univariate analysis only patients with CVD were included, not the whole group including patients who had stroke and TIA only, and in Table 3 the data are presented as the group „No CVD“ and CVD. This needs clarification: is the group „No CVD“ in fact the stroke or TIA group? The authors should write this clearly in the headings. Accordingly the headings in Table 3 and 4 need to be changed. In figures „Prevalence of CVD in females/males“ CVD should be replaced with stroke + TIA

Response: In line with our response to Comment 6, “CVD” has been replaced with „Stroke / TIA“ which was our original intention while using the term. This change has been made in all table headings.
Reviewer: Szabolcs Szatmari

Thank you for your comments on our paper. We have addressed all your comments and revised the manuscript accordingly. Please find below our responses to your comments.

Major compulsory revisions

Comment 1: The authors use a questionnaire containing a lot of questions about stroke symptoms (possibly including also TIA as there are questions about length) lifetime and separately TIA in the last 12 month. Data about incidence are not shown, the study is named a prevalence study. Please explain clearly in the Data collection and Diagnosis and statistical Analysis sections how the TIA prevalence was calculated!

Response: The questionnaire enquired symptoms of TIA in the last 12 months as well as similar symptoms ever in life time. Based on our experience with this study population, we do not believe that we can reliably calculate the incidence of TIA using the current cross-sectional study design. Therefore, questions related to TIA symptoms were pooled to calculate life-time prevalence. Further study on incidence of TIA may be carried out using a prospective healthy cohort as a starting point.

All those patients who answered yes in any of the domains of the TIA questions were clinically assessed by a vascular neurologist as to whether the symptom complex actually respected a vascular distribution. For example – isolated giddiness and vasovagal symptoms were not coded as TIA. Isolated carpal tunnel syndrome was not coded as TIA. Bells Paralysis was not coded as symptomatic TIA.

Comment 2: The data collection is retrospective related stroke during one’s lifetime that is why it seems forced to look for a relationship between stroke in the past and some actual findings such as raised blood pressure, serum glucose level, menopause etc. Of course these are important vascular risk factors for secondary prevention of stroke. The table 3 is named Lifetime prevalence of risk factors... but contains data about the mentioned actual measurements. Mean values of these cannot represent prevalence.

Response: We agree that, by virtue of our cross-sectional study design, we are forced to evaluate associations between history of stroke in the past and risk factors as measured at the time of enrollment in this study. History of vascular risk factors was elicited in patients and incorporated with actual measurements whenever possible.
Comment 3: Please reconsider (and correct results if necessary) the definition of hypertension which must be history of persistent raised blood pressure in the Discussion and Table 3!

Response: An individual was considered hypertensive if he met any one of the following criteria: 1) past history of persistent hypertension; and/or 2) systolic BP \( \geq 140\text{mmHg} \) or diastolic BP \( \geq 90\text{mmHg} \) on two readings at least 10 minutes apart. While we agree in principle that history of persistent raised blood pressure should be used, such history may not reliable in the context of this study sample. Our data shows that individuals clearly hypertensive with systolic BPs well above 160mmHg on consecutive readings were unaware of their condition. Therefore, a composite definition was used for this study. Corrections in this regard have been made in text / tables. Footnotes have been updated to reflect this definition.

Comment 4: The problem of actual BP is difficult also because there is not mentioned whether the subjects were under medication, with or without history of hypertension. Please detail this aspect!

Response: This is a limitation to our study, since determining current use of anti-hypertensive in this community was difficult and offset by factors such as lack of education and the prevalent use of alternative (especially herbal) medicine in such communities. Despite having asked the question on use of medication for HTN, we received non-specific and uncertain responses, and hence we removed this information from our analysis. Additionally, subjects reported taken medications for hypertension on an “as needed” basis. The patients who did take medications did it in such a way as to render them ineffectual.

In addition, as clarified above, we used a composite definition of hypertension and more than 50% of the total sample was found to be hypertensive by this definition, even without our ability to consider individuals who had controlled hypertension and may not have been detected by on-site measurements.

Comment 5: The effect of education was not shown. There is a difference between male and female with possible relationship with stroke prevalence

Response: Following your advice, we observed that a significant difference in proportion of education exists across gender. However, no significant difference was seen in stroke prevalence between educated and uneducated groups. Moreover, education made no difference to the association of gender with stroke or to any associations noted in the final multivariate model.
Minor Essential Revision

Please use the term increased or raised or elevated instead of increasing blood pressure, old age instead of increasing age!

Done