Author's response to reviews

Title: Perception of Stroke and Knowledge of Potential Risk Factors among Omani Patients at Increased Risk for Stroke.

Authors:

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Author's response to reviews: see over
A) Reviewer-I: Todd S Harwell

1. In the methods section, it would be useful for the authors to describe how the eligible population was identified? how many total eligible patients there were during the time period, and the characteristics of this population compared to the sample that agreed to participate. Were they similar? Different? (e.g., age, sex, prevalence of TIA, etc ...  

**Our response:**  
The following sentence was added to the method section under “Sample and Setting Subsection”: We attempted to identify eligible subjects on the basis of diagnosis that placed the subjects at increased risk for stroke. **Changes were made in the last sentence to read:** Any patient with one or more established risk factors for stroke (diabetes, hypertension, heart disease, dyslipideamia, atrial fibrillation, smoking, previous stroke, transient ischemic attack and carotid stenosis) was eligible to participate in the study. **One sentence was added in the result section after sentence no.5:** The diagnosis, age and gender distributions of the enrolled subjects were not significantly different from that of the eligible population (mean age was 55 years and 1:1 male-to-female ratio).

2. For the questions related to stroke warning signs and potential risk factors, were aided (e.g., a list of possible warning signs was described and then the patient indicates yes, no, or dont know) or unaided questions used (e.g., the patients were asked what are the warning signs for stroke)?  

**Our response:**  
The second sentence under the subsection (procedure) was changed from “The questions were asked during a one-to-one interview in the local Arabic language.” to “The interviewer conducted a standardised, structured one-to-one interview, in the local Arabic language, with open-ended questions”. The last 2 sentences in the paragraph explained that the questions were unaided: “The interviewer assisted only to clarify any doubt, if required. No attempts were made to prompt the subjects by suggesting answers directly”.

3. Table 1 could be removed and the findings described in the text of the results section.  

**Our response:**  
-The table is showing important summarized information which is not in the text such as that about education levels of our sample which is very important piece of information about our situation as a developing country which is similar to many countries in the world.

-**HOWEVER, Some changes have been done: the sentence** “Of the study subjects, 203 (50.8%) were diagnosed as having hypertension; 208 (52.0%), cardiovascular diseases; 178 (44.5%), diabetes mellitus type two; 80 (20.0%), dyslipideamia; 25 (6.3%), smoking; 20 (5.0%), history of previous stroke; 9 (2.3%), atrial fibrillation (AF); 9 (2.3%) and transient ischaemic attack (TIA); 4 (1.0%)” **was removed from the text because it is well displayed in the table.** The sentence “The demographic details are shown in Table 1” **was changed to:**
“The details of the demographic and medical profile of the subjects are shown in Table 1.”
- The current health status of the subjects at the bottom of the table was rearranged in descending order. The abbreviations were written in full words.

4. In the discussion section, there is no comment made about the limitations of this study. The authors should include a brief paragraph describing the limitations.

**Our response:**

The following paragraph was added at the end of the discussion section:

“It is worth mentioning that our study has encountered several limitations. The interviewers were trained on how to avoid asking leading questions. Nonetheless, because of the low level of education of some subjects, it is possible that the interviewers might have directed the participants while they were trying to explain the meaning of the questions to them. Therefore, our study is not immune from interviewer bias. Hence, this bias is expected to lower the observed prevalence of unawareness among participants. Thus, if the effect of bias is removed, the observed prevalence would be expected to increase which further support our finding of high-level of unawareness. Another limitation is that a few number of participants (<2%) have allowed only for a quick short interview in the clinics because of other commitments which might have affected the validity of answers they provided”.

5. The authors should also consider adding some comments to the discussion regarding how to deliver the messages regarding stroke warning signs, and stroke prevention in this population. What are potentially effective means to do this, particularly in light of the cultural beliefs and traditional healing.

**Our response:**

One paragraph was added to the discussion section before the last paragraph:

“One implication of our results is the importance of increasing public awareness about stroke and stroke prevention, particularly in the at-risk population. Because of the high illiteracy rate among people at risk, we recommend that health education messages to be addressed via audio-visual materials rather than readable materials as is the current case. We, also, recommend to initiate an extensive community education campaign consisting of media appearances by local stroke experts to address the issues of stroke, particularly stroke treatment and to correct the misconceptions about these issues”.

6. In the first paragraph of the results section, third sentence, the word "were" should be deleted.

**Our response:**

The word "were" was deleted.

7. In Table 4, it is unclear what "false beliefs" means.

**Our response:**

Footnote was added with the meaning. However, it was already there in the text.
**B) Reviewer-2: Desmond O’Neill**

-The authors must consider whether there is a particular benefit in clarifying whether Oman is considered to be a developed or developing country (see Lancet. 2005 Jun 25-Jul 1;365(9478):2160-1)? Or what are the trends in diabetes, obesity and hypertension in Oman and are there resultant important lessons for the rest of the world (see Am J Prev Med. 2005 Dec;29(5 Suppl 1):95-101.)?

**Our response:**

A new paragraph was added to the introduction section with regard to this issue: “Oman, as a developing county, is undergoing several transitions: Lifestyles are changing rapidly including changing dietary patterns (high fat, high salt and calorie dense diet) and decreased physical activity and the emergence of non-communicable diseases as the dominant feature of ill health in the community. As a result the prevalence of important risk factors for stroke (diabetes, hypertension and cardiovascular diseases) is increasing”.

-Are there particular issues with literacy or methods of health promotion which are peculiar to Oman which might give new insights to the rest of the world?

**Our response:**

Yes, a new paragraph was added to the discussion section before the last paragraph. See above.

**C) Reviewer-3: Jacqueline M. Nordhorn**

**Major Revisions**

**Abstract:**

- Only descriptive results are presented. Why do the authors not summarize the results of the multivariate analyses?

- The number of patients belong to the result section.

- The English needs some revision, for example, do not begin sentences with percentages. What does viz. mean?

**Our response:**

-In the section about results in the abstract major changes and modifications were done. The new paragraph read: “Only 35% of the subjects mentioned that the brain is the affected organ in stroke. Of the subjects, 68% correctly mentioned at least one symptom/sign of stroke and 43% correctly mentioned at least one stroke risk factor. The majority (62%) did not think that they were at increased risk for stroke and 98% had not been advised by their attending physicians about their clinical conditions as risk factors for stroke. In the multivariable logistic regression analysis, younger age and higher level education were associated with better knowledge regarding organ involved, stroke symptoms and risk factors”.

-viz. in the method section of the abstract in the discussion section of the paper changed to i.e.
Introduction:
-The authors write that increased knowledge translates into improved prevention. However, the evidence on this issue is inconsistent and should be acknowledged comprehensively.

Our response:
The sentence “In addition, the awareness of the potential risk factors will increase patient compliance with prescribed medications and follow-up appointments” was removed from the text because it was a repetition of the same idea. 2 new sentences with opposite argument was added at the end of the discussion of this issue: “However, persons at risk often tend to misunderstand risk, underestimate their risk for stroke and assume that adverse events will not happen to them [10]. Samsa et al. [11] reported that about one fourth of patients, in their study, who recalled being informed of their increased stroke risk by a physician nevertheless did not perceive themselves to be at increased risk for stroke” Two new references were added.
-One sentence was removed from the introduction “Educational strategies are needed to improve the awareness level to enable patients to seek medical help for early treatment of stroke [1, 5, 10, 11]” because this idea was not of the main ideas which have been tackled in this study.

-The last paragraph belongs to the discussion section.

Our response:
Yes, the last paragraph “There are certain beliefs in the Omani community regarding the treatment of stroke. Many prefer to isolate the patient in a warm place at home where only one person can take care of him/her because they believe that heat and isolation will speed recovery. As a result, patients with stroke may fail to gain the benefits of acute treatment” was removed from the introduction and it is there in the discussion.

Method section:
What type of questions did the authors use (open- or close-ended questions)?

Our response:
Discussed above

Result section:
- The result section is far too long. There are some parts which would have been clearer in tables such as percentages and numbers, for example, the prevalence of risk factors etc.

Our response:
- The sentence which presented the percentages of the patients according to the established risk factors/diagnoses was removed from result section and it is well presented in table 1.
- The 1st paragraph under the subsection “Knowledge of stroke symptoms”: was shortened and modified, again these information presented in table 4.

- There is no need to report univariate analyses in addition to multivariate analyses.

Our response:
-Where both analyses were done, univariate analysis was removed like in the brain involvement and knowledge of stroke symptoms sections except in the section about knowledge of risk factors where other variables (history of
heart disease and dyslipideamia) were shown as predictors of better knowledge of stroke risk factors. The table of univariate analysis (table2) was removed because most of its information not required after the changes.
- Table 3 became table 2 and table 4 became table 3.

- What variables were entered into the models? Only age, sex and education or others as well?

**Our response:**
These are clearly mentioned in the method section under the subsection Statistical Analysis. This subsection was modified in this revision.

- Tables: there are unexplained abbreviations (use as few as possible) and some of the tables need formatting.

**Our response:**
Abbreviations were changed to full words and formatting of the tables was done.

- Use the same table format throughout the result section.

**Our response:**
Done

**Discussion section:**
A limitation section is needed.

**Our response:**
Discussed above.

**D) Editorial Changes**

1. "Competing interests" section was added.
2. "Authors’ contributions section" was added.
3. Subsections were added to the method section: sample and setting, procedure, measurement and statistical analysis.
4. The ethical approval was shifted to be after measurement section
5. One sentence about previous studies was added to the abstract section under the background subsection. 1st sentence.
6. References were changed according to the journal style.
7. Authors’ names were changed to fit the journal style. All email addresses were written.
8. The authors have ensured that this revised manuscript conforms to the journal style stated in [http://www.biomedcentral.com/info/ifora/medicine_journals](http://www.biomedcentral.com/info/ifora/medicine_journals).