Reviewer's report

Title: Knowledge and Perception of Diabetes in a Semi-urban Omani population

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Reviewer: Katarina Hjelm

Reviewer's report:

Major Compulsory Revisions are needed in the paper as indicated below each question used for reviewing the manuscript:

1. Is the question posed by the authors new and well-defined?

In the introduction in the end of paragraph three you can find that "Various studies conducted in many parts of the world suggest that there is lack of public awareness and knowledge on various factors related to diabetes "To our knowledge, no such studies have been undertaken in the Sultanate of Oman. Thus, the investigation deals with a new area and the underlying question is what knowledge and awareness does people in general in Oman have concerning diabetes.

In the two last sentences of the introduction it is told that "There are virtually no epidemiological studies assessed the level of awareness of diabetes among Omani population" this study aimed to evaluate the knowledge and perception of diabetes. Thus, it is a new area and I really hope that the investigators have searched for studies other than epidemiological to review the area as the approach on the question under issue is not an epidemiological matter?! I would advice the authors to delete epidemiological from the sentence.

The introduction is very long and contains a lot about the threat from the global public health problem in terms of diabetes mellitus. Some of the sources are rather old, e.g from 1991, and I do lack new sources published by the World health organisation (WHO) and the International Diabetes Federation (IDF) about the development of the disease in the Middle Eastern region which Oman is part of.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

When reading the methods section I do wonder whether a Structured interview study or a Survey with questionnaires to be filled in by the respondents have been undertaken? This need to be clarified both in the Methods section and in the Abstract.

Wouldn't it be more clear to change the subheading Survey Measures into Interview guide or questionnaire (which one it is?)!

What is not clear from the text is what kind of questions that were posed.
Open-ended, closed, response alternatives, multiple choice or what kind?

In order to value the validity of the data collected there is a lack in this section about how the instrument used was developed and tested, with the exception of being based on literature and peer-reviewed. Was a pilot-test undertaken? If, with whom and what happened then?

What persons and with what qualifications did peer-review the instrument?

Under the heading Sampling and procedure there is a lack of information about the demographic characteristics (e.g. age, sex, educational level, income level, illiteracy etc) in the studied areas and in comparison to the population in general in Oman, please give information whether it is similar to or different from the general population of the country.

Why did you chose to study these two areas? Motive?! How representative are they?

Further, I would like to know in exact figures how many persons that were living in the studied areas and in Oman (line 7 and 8, under Sampling and Procedure).

How many persons were participating in the data collection as interviewers?

Data analysis- I do not understand how associations were determined by using only chi-squared tests as this is a method investigating differences between variables and not analysing associations. Please explain, and do consider the use of multiple logistic regression analysis to find out about determinants for knowledge and perception of diabetes. In the references 14-17 there are useful information how to handle data as well as how to describe and present data.

There is also a need to describe how variables were handled in the statistical analyses to measure knowledge, perceptions and attitudes.

3. Are the data sound and well controlled?

Please see above!

Results section:

Firstly, I do wonder whether those respondents that reported being diabetic had been informed by a doctor that they were diagnosed as having diabetes mellitus or how they knew they had diabetes?

Secondly, What does the results of table 1 say? Are there differences between men and women? Etc. Please, summarize the findings in the text and describe the characteristics of the studied group.

Thirdly, I have difficulties in knowing whether data are sound and well controlled in the section as I am not able to control what is stated in the text against information in figures and tables. I need to be convinced that what is said is supported by the findings and I need more information than just p-values.
Finally, associations and analysis would benefit from developing models of studying determinants for knowledge, awareness and perceptions in multiple logistic regression analysis. In the references 14-17, 28-29 there are useful information how to handle data as well as how to describe and present data.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

Please, see above!

Table 1 â## are there significant differences between men and women? P-values?!

Table 2 â## Results are given in percentage but the question is in percentage of what? Needs clarification.

I do not understand why figure 1 is connected to Discussion as it is part of the results section.

The figure need to be developed with a Figure legend telling what the results of the figure are.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

When reading the Discussion the first question is, what is new or unique with this study?

The second question is, what are the main results?

The first section is interesting but would benefit from being shortened as there is a lot of information already told in the introduction. Not until in the third paragraph of the section the focus is on the area under study! This need to be discussed earlier.

Another question to be posed is whether the prevalence figures of DM and influencing factors on it, is a main result of the study? As I read the paper the focus of the study is on knowledge about DM in a general population? Wouldnâ##t it be more suitable to discuss this under limitations and/or to change focus in the text in order to discuss matters of representativity of the results in relation to the studied area and its characteristics compared to the population of Oman instead?

The content in the section need to be focused on knowledge and perception of diabetes and results discussed in relation to previous studies and what could be expected in an area of a developing country with a certain level of education, rate of illiteracy etc. I do not think the results are exceptional rather as you would expect although something very important to consider and develop.

Limitations of the study â## information here needs to be focused on the aim of the study and the general population and not so strongly on the limited number of diabetic subjects. Would benefit from discussing representativity of the sample instead (see above).
What about influence of several interviewers? What does their background imply for the respondents and their willingness to answer and also what information they are being able to collect? Advantages? Disadvantages?

At the present stage this section is hard to judge as it depends on the presentation of results which needs to be clarified first. However, it the section needs to be more focused in relation to the aim of the paper.

6. Do the title and abstract accurately convey what has been found?

The title focuses on the area that has been studied but not on what has been found.

Abstract need to be developed:
Aim need to be included and congruent with what is stated in the manuscript.
What method was used? Interview or questionnaire survey?
What happened with KAP- knowledge, attitude and perceptions, could be used for structuring results/conclusions.
Conclusion contains a very strong and emotive attitude â#|â##far less than desiredâ#|â##- avoid emotive expressions, be objective and conclude that it was limited.

7. Is the writing acceptable?

The writing is good with few exceptions where minor corrections are needed. Needs some language corrections before being published and expressing the results and discussion in an objective way.

Advice:

Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions.

Level of interest:

An article of importance in its field.

SUMMARY: This is an interesting article investigating an important area. The main limitations of the study is that it is not clear which method was used and presentation of results does not convince the reader what has actually been found. Thus, it need to be further developed, particularly concerning presentation of results, e.g with figures and in tables, and with methods supporting the conclusions of limited knowledge and risk awareness of diabetes mellitus.