Reviewer's report

**Title:** Non-adherence to self-care practices & medication and health related quality of life among patients with type 2 diabetes: a cross-sectional study

**Version:** 4  **Date:** 13 March 2014

**Reviewer:** Jeffrey Vietri

Reviewer's report:

General comments to provide context for specific recommendations:

The research question is well defined, to measure the association between self-care practices, medication adherence, and health-related quality of life in Bangladeshi patients with type 2 diabetes.

The methods seem appropriate, but the descriptions provided need to have more detail for readers to be able to assess them. For example, whether respondents were non-adherent to BG monitoring if they missed or did not perform the test in time, but the meaning of these terms needs to be more clearly defined. The same is true of some of the other domains. If these are deviations from the Bangladeshi guidelines, some brief description of the guidelines for each domain would be appropriate. It is also not clear to me what is meant by ‘checklist’ in the context of the clinical and biochemical measures (line 112).

I am not sure if the UK TTO formula for the EQ-5D index is appropriate in this context, or if there would be a more relevant one; value sets are available for a number of countries, so the authors should provide some justification for the use of this particular value set.

Likewise, it would be helpful to understand how similar the T2D population of OPD at BIHS are to the T2D population of Bangladesh in general. Is this an important national hospital where care is better than would be expected elsewhere, or is it a typical setting for care for T2D patients?

In terms of analysis, I believe the regressions performed would more appropriately be termed ‘multivariable’ rather than ‘multivariate’, as multivariate typically means more than one response variable/dependent variable is being modelled in a given analysis.

The data seem sound – they are self-reported and from a convenience sample, but valuable if the limitations are considered.

Some of the data might be better presented in a different format; particularly table 1, which presents chi-square values, degrees of freedom, and p-values. I expect the p-values are of interest to the readership, but the the chi-square and df values are less interesting than the proportions of patients reporting problems vs. no problems according to adherence status would be.
I think it would also be interesting to see if there is a relationship between the number of domains in which the patients are non-adherent and HRQoL. This would also include the reporting of the proportion of patients non-adherent to 1 domain, 2 domains, etc., which I don’t see reported in the current version of the paper.

The current version of the manuscript spends much of the discussion comparing and contrasting the findings of the current study with the findings of other studies, but does not offer any insight as to why the results are different. The authors should attempt to explain some of the differences, such as whether the guidelines were different/threshold for adherence different, the different lifestyles in the societies, etc.

Another issue with the discussion of the current paper is the lack of a limitations paragraph. Clearly there are limitations resulting from the self-report nature of some of the data, the cross-sectional design, the convenience sample, etc., but the presence of these limitations and their possible effect on the results are conclusions need to be addressed.

The authors do acknowledge previous work, though I would suggest adding a paragraph to the introduction briefly describing some of the most relevant studies in more detail; some relevant ones are included in the discussion, but it would be helpful to have them described in the introduction to provide additional context.

The title and abstract seem appropriate to the paper.

The writing in the current draft does not meet the standard of the journal, so I would encourage the authors to seek additional help from a medical writer or colleague whose native language is English to edit the paper.

- Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

None for this version.

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

1. Table 1 should be reconfigured to display the differences in proportion of problems and whether these differences are significant rather than the test statistics themselves.

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

2. The paper should be edited for language and clarity.

3. The authors should provide more thorough review of comparable work in the introduction, particularly the studies used as comparators in the discussion.
4. Please provide additional detail on how non-adherence was defined in each domain. The current description does not seem sufficiently detailed for someone without privileged knowledge of the study to replicate the work.

5. Provide justification of the use of UK TTO valuation for the EQ-5D in the Bangladeshi population.

6. The limitations of the work need to be clearly stated in the discussion.

7. The authors should provide some suggestion/explanation for why the results of the current study differ from previous ones.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I am currently an employee of Kantar Health, a company which provides consulting services to pharmaceutical companies, including those which develop and market medications for diabetes.