Author's response to reviews

Title: Diabetes related knowledge among residents and nurses: A multicenter study in Karachi, Pakistan.

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Author's response to reviews: see over
Thank you very much reviewers and editors for your comments and giving me an opportunity to revise my manuscript based on your comments. We have reviewed the above manuscript according to your reviewer’s comments.

Reviewer: Ali Khuwaja

In the revised manuscript authors have tried to incorporate the changes and suggestions made. However, there are still substantial gaps to be addressed before making the decision about the acceptance of this paper in BMC Endocrine Disorders.

In addition, some term like ‘trends’ and ‘hypothesis’ are not appropriate for this type of study.

Answer: The terms “trends” and “hypothesis” have been removed from the manuscript.

1. Methods:
- How open ended responses were grouped, coded and scored? What method was used?

Answer: The content analysis strategy was used for coding open ended questions. Initially categories were formulated by the study team after thoroughly reading all the answers, however, about 5% of the non-relevant or inadequate responses were left uncoded. The
resulting categories were later independently assessed by the study investigators and inter-rater agreement was assessed.

Unanswered answers were counted as wrong (score 0) with an assumption that participants most probably were not aware of the correct answer in view of the open ended nature of the questionnaire. The questions were divided into categories of out-patient (items 1-4), medications (items 5-10) and in-patient (items 11-20). The total score was acquired by adding respective points which were then expressed as mean percentage (Explanation given in Statistical Section).

Were the level of training and working identical in all hospitals? Probably not! Authors are suggested to give description about studied hospitals particularly in reference to training and education of nurses and residents.

Answer: These tertiary care hospitals were selected on the basis of the presence of post graduate training programs and included both government and private institutes. All the hospitals (both government and private sector) selected had
recognition for house job and specialist training by regional regulatory authority for trainee residents. All the hospitals had an independent medical and surgical department dealing with patients having diabetes as one of the main or co-morbid condition.

Although there were variations in terms of training of residents and nurses among institutes most probably related to limited availability of financial and personnel resources (Explanation given in research design and methods).

What was the response rate and what was the proportion of unanswered questions? Does post-hoc sample size calculated? (if the proportion of non-respondents and unanswered questions were reasonably high).

Answer: Response rate, overall and stratified by participant’s category is given in result section. Unanswered questions were taken as wrong answers due to nature of questionnaire (open ended). Since data has been merged we don’t exactly know the proportion of individual unanswered items.

Post Hoc Statistical Power
A post hoc power analysis was conducted using the software package, G*Power version 3.0 (Faul and Erdfelder 1992). The sample size of 381 was used for the statistical power analyses. The effect sizes used for this assessment were as follows: small (0.27), medium (0.6), and large (1.3). The alpha level used for this analysis was 0.05. The post hoc analyses revealed the statistical power for this study was 0.27 for detecting a small effect, whereas the power exceeded .98 for the detection of a moderate to large effect size. Thus, there was more than adequate power (i.e., power * .80) at the moderate to large effect size level, but less than adequate statistical power at the small effect size level (given at the end of result section).

Description of the qualitative and quantitative variables and their plan analysis in some details.

Answer (Given in statistical analysis section) : Frequency and percentages were reported for qualitative variables like correct response of ADA guideline for HbA1c, medication etc. and mean
with SD presented for quantitative variables (Specially mean percentage score).

How the questionnaire was validated? What types of validation done?

Answer: A pre tested validated questionnaire (Appendix) with test-retest reliability of 0.71 consisting of 20 open ended questions related to diabetes awareness was acquired from a study done at Thomas Jefferson University Hospital, Philadelphia with the permission of primary author (Rubin et al). Furthermore the questionnaire was assessed for content validity by our team of Endocrinologists and nurses with expertise in diabetes care (Research design and methods).

2. Discussion:
- This section is still deficient in literature citation and conceptual debate.
- Limitations should be mention in more details with critical discussion

Answer: Discussion and limitations has been changed according to comments.

3. Tables and figures:
- Headings and subheadings of tables are inappropriate
- Heading of figures are missing
Answer: Headings and subheadings of table have been changed.

Figure legends (Headings) are right after the figures.

4. References:
- Many of the cited references are quite old
- Style of the references is not accordingly to the authors guidelines for this specific journal
Answer: Old References have been removed. Style of the references is now according to Endnote (Style BMC Endocrine Disorders).